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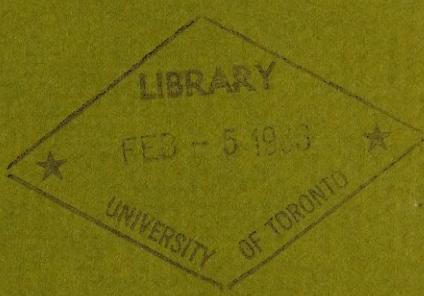


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# ONTARIO HYDRO NEWS



HIGHLIGHTS

JANUARY, 1963

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JANUARY, 1963

## ONTARIO HYDRO NEWS

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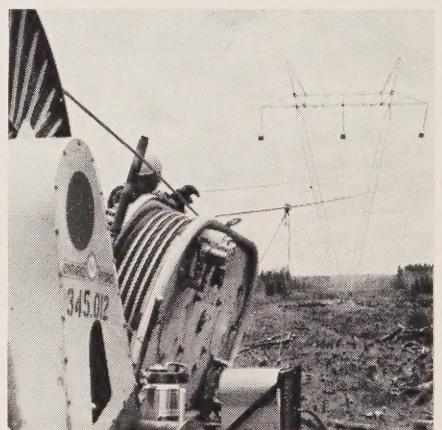
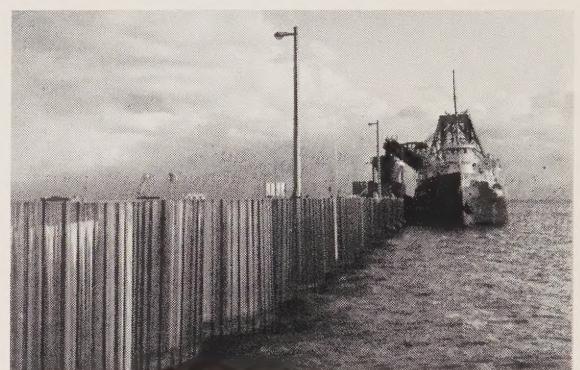
### HYDRO NEWS, VOL. 50, NO. 1

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First nuclear-electric power produced in Canada supplied to Hydro customers. ■ Extension of the international, interconnected utility system, of which Ontario is an integral part, from Northern Ontario to the Gulf of Mexico. ■ First power delivered from the second 300,000-kilowatt coal-fired unit at Lakeview Generating Station on Toronto's western outskirts — eventual planned capacity of 1,800,000 kilowatts. ■ Construction of 100 miles of Canada's first 500,000-volt EHV (extra-high-voltage) transmission line, designed to move power from hydraulic sites now being developed on the James Bay watershed to markets in the south. ■ Construction of the first transmission line in Ontario built completely by helicopter methods in the rugged northern bush country between Manitouwadge and Hornepayne. ■ Decision to extend scope of data processing by the addition of a second Univac II computer. ■ Reduction of overhead costs through the consolidation of regional and area staffs. Total integration of the former Niagara and West Central regions was accelerated and the initial steps in the amalgamation of Eastern and East Central Regions undertaken. ■ Home heating rate reductions sufficient to make this superior form of heating competitive in cost with other methods were introduced.

**HIGHLIGHTS 1962**



(1) Ontario Hydro Chairman W. Ross Strike welcomes R. J. Boyer, M.P.P., as Second Vice-Chairman. (2) Like several other utilities, Dundas P.U.C. moved into new quarters during the year. (3) Public speaking contest has become a highlight of public relations program. (4) Good food spurs progress at Little Long project. (5) Jet boat improves efficiency of northern river work. (6) Line building from the air is another example of improved techniques applied in past year. (7) Coal carrier unloading at Lakeview G.S. underlines growing reliance on thermal-electric facilities. (8) Line stringing on extra-high-voltage project reflects skill and ingenuity. (9) Hydro's know-how is sought the world over. Here, Don Haig and family prepare for Iran.

# HIGHLIGHTS 1962

*At meetings such as this, Ontario Hydro Commissioners and senior management formulate policy for one of Canada's largest businesses.*



The use of every modern method in all phases of its operation, including sales promotion, organizational and administrative economies, new equipment and techniques, was thrown into the battle with rising costs, Ontario Hydro Chairman W. Ross Strike said, in a year-end review of 1962.

He also commended the municipal utilities for their actions in holding the cost line during 1962. He said proof of the success of their efforts lay in the expectation that less than 10 per cent of the 355 municipal utilities served by Ontario Hydro were expected to find it necessary to increase rates during the coming year.

Adjustments in the wholesale cost of power to the municipal utilities representing an over-all increase of 2.3 per cent were introduced during the year . . . 167 utilities will pay higher wholesale rates, 153 remain unchanged, and 35 are lower. The majority of utilities paying higher wholesale rates are expected to be able to absorb the increases without passing them on to retail customers.

In fact, increased usage by residential municipal customers has reduced their average cost per kilowatt-hour from 1.19 cents in 1953 to an estimated 1.14 cents in 1962.

Reflecting the general trend of the economy, power demands quickened during the last quarter of 1962 and

reached a December peak of 6,308,000 kilowatts, an increase of 6.0 per cent over 1961. Resources to meet these demands totalled 7,088,000 kilowatts, including a 300,000 kilowatt unit at Lakeview G.S. commissioned this year. Forecasts indicate electrical demand during 1963 will rise 6.5 per cent, equal to the long-term average.

The value of Hydro's current thermal expansion program was forcefully demonstrated during 1962.

Low water levels on the major watersheds drastically reduced the output of hydro-electric generating stations in Southern and Northeastern Ontario so that, at one stage, coal-fired plants were called upon to supply as much as one quarter of total requirements.

To offset increased cost caused by extra coal consumption, and by loads which were lower than those forecast at the time power plant expenditure was committed, Ontario Hydro used some of its reserve for Stabilization of Rates and Contingencies funds.

This reserve had been built up in past years from extra revenues when stream flows or load factors were higher than normal, and from the use of extra water

at Niagara which was available while the big P.A.S.N.Y. plant was under construction on the U.S. side of the river.

In 1962 the Commission financed only \$50 million by the issue of debentures. This was the smallest amount of money raised by outside financing in recent years, and compared with \$100 million raised in 1960, 1961, and a high of \$205 million borrowed in 1956.

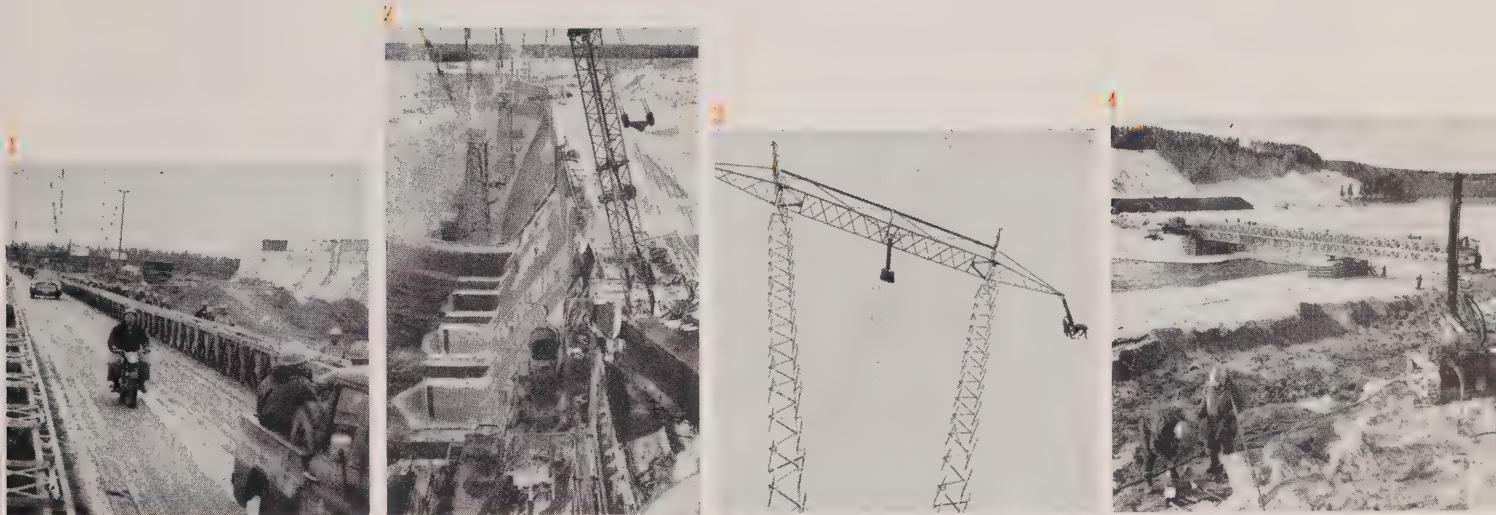
Internal sources of revenue, due to the larger system in operation in 1962, were greater than in previous years, and capital construction costs lower at \$116,085,000. This was largely accounted for by thermal construction, which has a lower capital cost.

Thermal construction costs are also expected to account for the lion's share of 1963's estimated \$120,536,000 capital construction bill.

In the municipal field, four new cost contracts were signed with municipal utilities, three—Hearst, Sioux Lookout and Rainy River—changed from fixed rate, and King City was formed from Richmond Hill rural operating area.

Further details of major developments in specific areas during 1962 are on the following pages.





## HYDRO-ELECTRIC PROGRESS

For the first time since 1949 not a single hydro-electric generating unit was brought into service. But this in no way indicated a break with the Commission's policy of developing the remaining economical hydro-electric sites side by side with its thermal-electric program—it simply happened that no new water-driven units were scheduled for initial service in 1962. This year there will be four.

Lack of new hydraulic generation notwithstanding, 1962 was a busy year for the hydraulic engineer, construction

man and others associated with this phase of the Commission's operations. Activity was concentrated in the north-eastern part of the province in the James Bay watershed.

As the year drew to a close, Ontario Hydro forces were hard at work on a number of inter-related projects in this area.

On the swirling Mattagami River, north of Kapuskasing, work was well advanced on the site of Little Long G.S. (114,000 kilowatts from two units) where the in-service target is October, 1963.

The huge earth dykes to help contain the headpond were completed and the main dam nearly finished. The powerhouse was closed in and turbine erection was under way.

Sometime this spring the headpond will be flooded and excess water passed through the Adam Creek diversion.

A few miles north of Little Long G.S., construction crews were hitting full stride at Harmon G.S. (110,000 kilowatts from two units), second of the Mattagami plants to be started. By

year-end, a 900-foot diversion channel was more than half completed, service facilities had been built, and a construction bridge spanned the river. Harmon G.S. is scheduled for service in 1965.

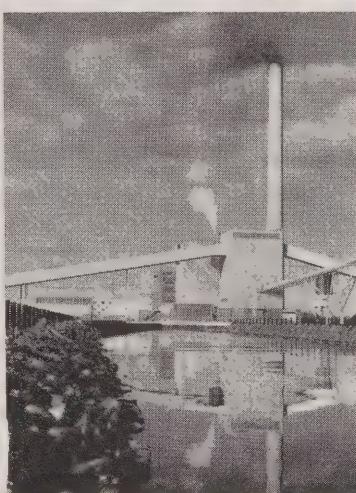
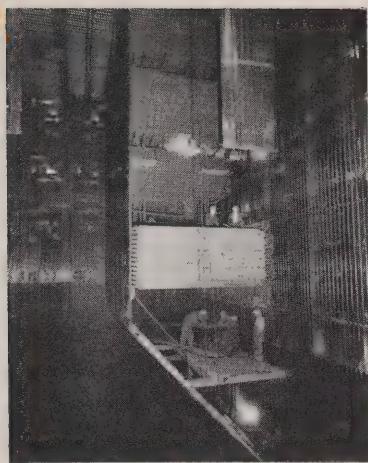
East of the Mattagami, on the Abitibi River, 150 men were at work on units three and four, at Otter Rapids G.S. This station's first two units went on line in 1961. Units three and four will bring the plant to its capacity of 172,000 kilowatts late this year.

To bring this northern power to market, a section of Ontario Hydro's extra-high-voltage transmission line will commence operating late in 1963—initially at 230,000 volts and, ultimately, at 500,000 volts.

By the end of 1962, 100 miles of EHV line were complete, another 40 miles of towers erected, and 50 miles of tower footings in place. By next fall, the 230-mile section from Pinard T.S. to Sudbury will be complete. The line will eventually be extended to the Toronto area.

*Sub-zero temperatures are taken in stride as work on northeastern complex of hydro-electric developments proceeds on schedule. Snug construction camp at Little Long, opposite page, seems to shelter in arms of project itself. Other views show (1) Little Long work force on way to job. (2) Concreting operations proceed at Little Long in temperatures down to -40 degrees. (3) Aerial acrobats are actually linemen spacing conductors on EHV line. (4) Blasting diversion channel at Harmon G.S.*





## Thermal-Electric Progress

Thermal-electric power had its moment of truth in 1962.

Below-normal rainfall led to a sharp cutback in output from hydro-electric stations during the second half of the year. Coal-burning thermal plants quickly took up the slack. At one point the Richard L. Hearn and Lakeview stations in the Toronto area, and the J. Clark Keith plant in Windsor, supplied

up to a quarter of the total power demand on the integrated Southern and Northeastern Ontario systems.

Stockpiles of coal dwindled because of the heavy load, and it was necessary to order 1,500,000 tons of coal during the year, including 250,000 tons which were supplied from Nova Scotia. It is expected that Nova Scotia will supply increasing quantities of coal to Ontario Hydro in the future.

Highlight of 1962 from the point of view of conventional thermal-electric generation was the commissioning last April of the first unit at Lakeview Generating Station on Toronto's western outskirts. With a capacity of 300,000 kilowatts, this single unit represents more power than will be derived from the Otter Rapids and Little Long hydro-electric stations combined when they are completed in Northern Ontario.

Good progress was also made on the second, third and fourth units at the Lakeview plant. No. 2 unit was brought up to full load November 12 during commissioning tests.

By the year end most of the struc-

tural work had been completed for No. 3 and No. 4 units. Workmen are busy erecting the boiler, turbine and other equipment for No. 3 unit, which is expected to come into service in 1963. Lakeview G.S. will supply 1,800,000 kilowatts from six units by the mid-sixties.

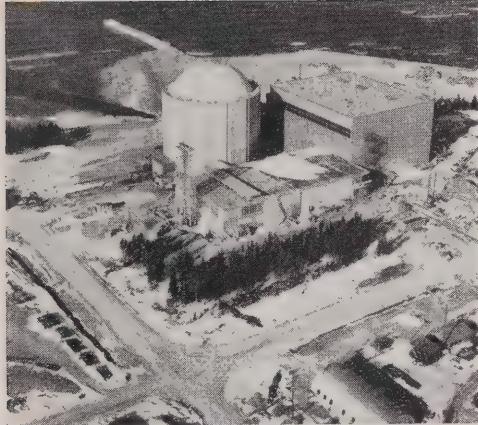
The 100,000-kilowatt unit at the new Thunder Bay station at Fort William produced its first power during 1962 trial runs. However, trouble encountered in run-up tests will delay operation of the plant until the spring.

By the end of 1962 conventional thermal-electric capacity in Ontario was 1,740,000 kilowatts, about 25 per cent of the total available from all sources.

It is estimated that by 1980 thermal-electric generating stations will provide two-thirds of the total generating capacity of 22,000,000 kilowatts which is expected to be needed by that time. And with advancements in the field of conventional thermal-electric generation, the cost of power derived from coal-fired plants will continue to set a difficult target for competition by nuclear plants in the years ahead.

*To the uninitiated, steam plants may lack glamour but photo, opposite page, suggests enormity of the works involved. View is from ground floor of Lakeview G.S. looking up into 157-foot-high boiler of No. 3 unit. Other photos show (1) Aerial view of Lakeview plant with coal-carrier discharging (2) This photo was taken inside No. 3 boiler at Lakeview which has designed output of 2 million pounds of steam per hour. (3) Premier John Robarts and Ontario Hydro Chairman W. Ross Strike officiate at Lakeview opening. (4) Water reflection duplicates Thunder Bay steam plant at Fort William*





## NUCLEAR-ELECTRIC PROGRESS

Ontario Hydro customers became the first Canadians to make use of electricity derived from the atom in their day by day activities when Nuclear Power Demonstration plant at Rolphton commenced feeding power into the Southern Ontario System last June.

A joint undertaking of Atomic Energy of Canada Ltd., Canadian General Electric Co., and Ontario Hydro, the 20,000-kilowatt pilot project was an investment in the future. Not expected to produce power at competitive cost, the station is providing a lot of engineering, operational and

maintenance experience that will prove invaluable as the nuclear-electric development program progresses.

And at Douglas Point, where the nation's first full-scale nuclear power plant is under construction by A.E.C.L., important advances were made during the year. As scheduled, civil construction was virtually complete in preparation for mechanical and electrical installations to commence early this year. Like construction, cost estimates continued on target.

Budget-wise, the project is in good shape, reports J. L. Gray, president of A.E.C.L. So far, items corresponding to 70 per cent of direct costs have been paid for or committed.

Reporting at year's end, J. S. Foster, project manager of the \$81.5 million Douglas Point development, revealed that, in addition to the buildings, an 850-foot intake tunnel had been completed to Lake Huron, and that three pumps capable of handling 100,000 gallons of water per minute had been delivered. He said the condenser had arrived at the site in November, and

that a 230,000-kva transformer, weighing in the neighborhood of 200 tons, would be delivered by the end of February.

Plans call for Ontario Hydro to operate the 200,000-kilowatt nuclear-electric plant upon completion in 1965, and to purchase it from A.E.C.L., when proven suitable for operation in the system, at a price which will permit the production of energy at a cost comparable to a modern conventional thermal-electric station of similar capacity.

Ontario Hydro is optimistic about the long-term future of nuclear-electric generation in the province, particularly since its use would reduce dependence on imported coal as the emphasis shifts to thermal-electric power production. But the short-term outlook remains uncertain. In line with its responsibility to supply the people of Ontario with electricity at the lowest possible cost consistent with good service, Ontario Hydro could only proceed on an independent nuclear-electric program if assured that it would be competitive in terms of the ultimate cost of power.

*Dramatic view, opposite page, shows men at work on reactor vault at Douglas Point. Other photos show (1) Aerial view of main buildings, now complete, at Douglas Point. (2) Ontario Hydro Chairman W. Ross Strike makes history as he turns control key at NPD opening. (3) Sixty ton section of condenser en route to Douglas Point.*



Three province-wide promotional campaigns embracing clothes dryers, Gold Medallion homes and supplementary electric heating highlighted the sales programs carried out in 1962 by Ontario Hydro in close association with the municipal utilities. These campaigns, designed to build and improve residential customer loads throughout the province, were developed in co-operation with manufacturers, dealers, contractors and other allies in the electrical industry.

Electric heating assumed new prominence in Ontario during 1962, and by the end of the year the total number of electrically heated homes in the province had reached 4,000. Future growth will be aided considerably by rate reductions for electric heating energy which a majority of municipal utilities put into effect during the year.

Electric heating will receive a further boost in 1963 from the guarantee of annual operating costs by the Electric Heating Association of Ontario for electric home heating systems designed and installed to E.H.A. Triple Seal of Quality standards. Under the terms of the guarantee, the Association will pay the full amount by which annual costs for electric energy used for heating exceed the estimated maximum. The guarantee covers a two-year period of normal occupancy and requires that a separate meter be used to measure the heating energy.

Progress in the field of commercial electric heating was even more encouraging. By the end of 1962 electric heating had been installed in some 210 motels, 110 churches, 50 schools, 1,000 apartment suites and several shopping centres with many more installations planned or under construction. This

represented a total commercial heating load of over 63,000 kilowatts—30,000 kilowatts of which were added in 1962.

Other indications of success on the load-building front include the following results—achieved since 1959, when the current sales program was launched: 185,000 electric water heaters installed; 5,066 Medallion homes completed, with 1,784 others under contract; and 35,000 kilowatts of commercial cooking load installed. During 1962 alone, 1,385 farm services were upgraded to 100 amperes.

To achieve long-range objectives in electric heating, Ontario Hydro plans to concentrate on "All-Electric" subdivisions, and it is anticipated that a number of these will be commenced this year.

Other highlights of the 1963 load-building program, developed in consultation with the Co-ordinating Committee on Sales and Advertising, comprised of executive representatives of the Ontario Municipal Electrical Association, the Association of Municipal Electrical Utilities, and Ontario Hydro, include the following:

- Special province-wide "feature promotions" spotlighting refrigerator-freezers and water heaters.
- Home modernization program featuring improved wiring and supplementary electric heating.
- A water heater Marketing Conference at which utilities, manufacturers, distributors and dealers will co-ordinate plans for more effective marketing of electric water heaters.
- Participation in the Canadian Electrical Association's "Cascade 40" promotion of 40-gallon, 1,000/3,000-watt water heaters.
- Upgrading of farm services with a

## LOAD BUILDING

*Medallion home promotion will continue to play a leading role in sales strategy. Swiss chalet-type home, opposite page, was among more than a score shown in province-wide Gold Medallion Showcase last autumn.*

target of 3,000 set for 1963. The majority of services will be increased to 100 amperes—others to 200 amperes, and 400 amperes on larger farms.

- Development of the use of "booster" water heaters for commercial application. Demonstration units will be installed on loan.

- Presentation of a new lighting course to promote better lighting in commercial and industrial offices and buildings.

- Promotion of electric heating for apartment and office buildings, with emphasis on the use of heat pumps.

**Among the highlights** of an extensive advertising program developed in support of the 1963 sales objectives are:

- Ontario Hydro and municipal utility sponsorship of local radio newscasts in place of Anne Allan programs, which are discontinued.

- A series of three, full-page and full-color advertisements featuring electric home heating, to appear in leading consumer magazines.

- An intensified newspaper advertising program featuring electric home heating and Medallion homes.

- Nine television commercials developed for the weekly "Biography" series sponsored by Ontario Hydro and the municipal utilities.

■

*Among sales highlights of 1962 were (1) the Sunshine Special electric dryer promotion, strongly supported by municipal utilities. Photo shows effective window display by Toronto Hydro. (2) As the wheel suggests, co-operation is the key-stone of Hydro's sales philosophy. Group is attending O.M.E.A. - A.M.E.U. annual convention. (3) Lighting sales blitzes were carried out in several municipalities. Here, barber Ross Doherty, Collingwood, hears suggestions from Hydro lighting consultants. (4) Commercial cooking seminars were effective sales aids. (5) This commercial for Biography TV series involved farm visit*



3

# HIGHLIGHTS 1962

ROOTS  
OF  
GREAT  
STRENGTH

## THE STORY OF THE DEVELOPMENT OF HYDRO'S CONSOLIDATED SYSTEM

Told in a different dimension, this story could be about the men who, over a span of more than half a century, have nursed the concept of public power from a vision to an Ontario-wide public electric utility system of enduring excellence. But that is a story worth the telling that must remain for another time.

This is an account of how that system grew from its first roots—the handful of tiny municipal utility systems formed in the early years of the century—to the mighty tree that is one of the largest publicly-owned electrical utilities in the world.

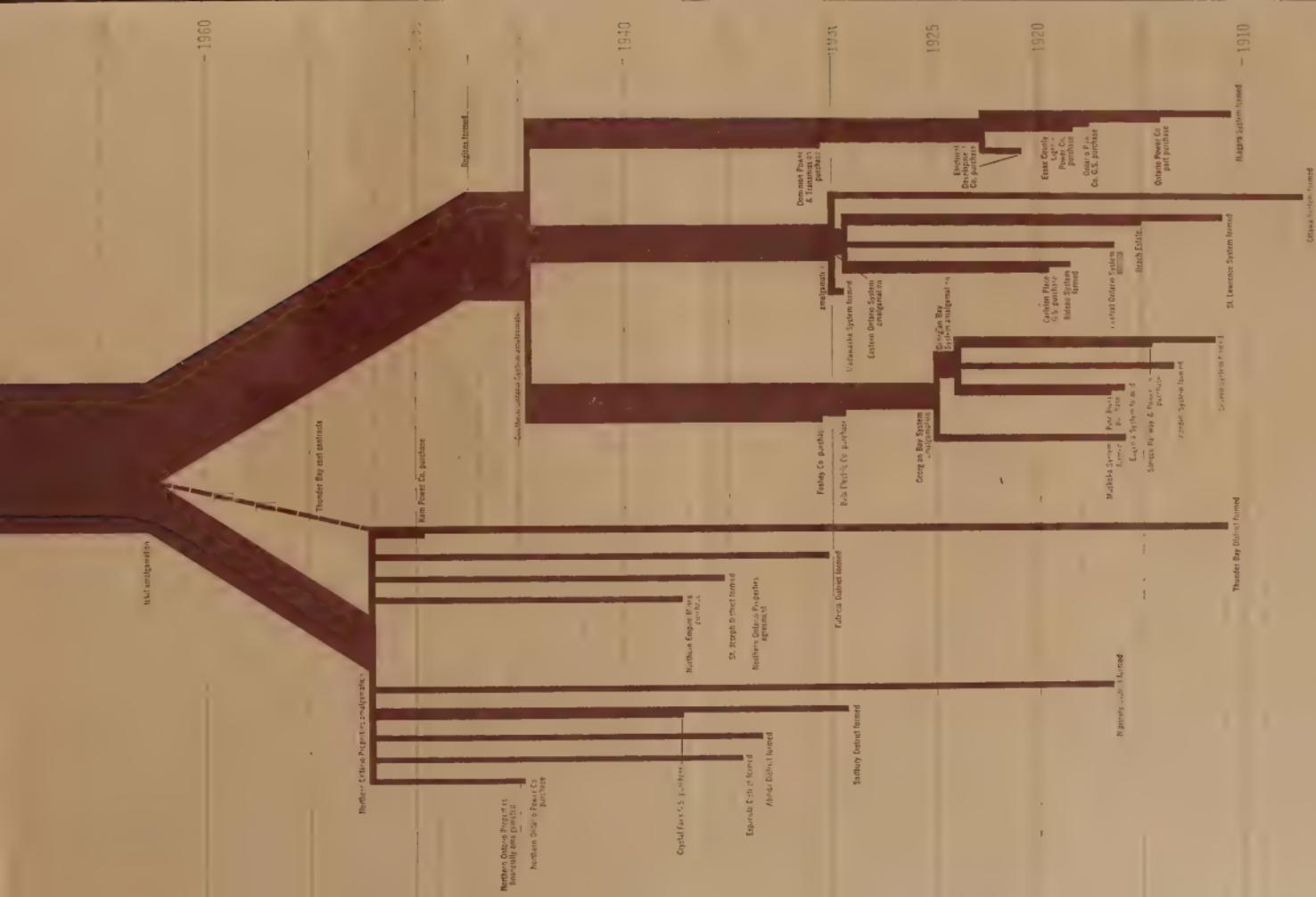
It is the story of the gradual interconnection of sometimes widely-separated systems, the construction of new generating stations or purchase of existing ones, and the extension of transmission and distribution facilities. Where systems were integrated physically, financial integration followed.

The whole Hydro story is by no means written. In the years ahead, exciting new chapters will doubtless be added.

But the recent financial integration of northern and southern systems does represent, in effect, an important pinnacle of achievement. Following approval of the plan by the Ontario Municipal Electric Association and the subsequent passage of enabling legislation by the Ontario Legislature, Ontario Hydro became a one-system operation, financially, just one year ago, on January 1, 1962.

Turn the page for a schematic diagram of the more than half-century of events which led to total system, financial integration. The artist's use of a great tree's root system is a not unlikely symbolism for the purpose.

A verbal account of this history follows on succeeding pages.



When Ontario Hydro became one financially-integrated system on January 1, 1962, it was 55 years to the day after the Ottawa System was established to form the tree's first rootlet.

This was followed by the creation of the Niagara System in 1910—a year of great significance in the history of Hydro. For it was on October 11 of that year that initial delivery of power was officially made to Berlin (now Kitchener), the first east municipality.

Then, in rapid succession, came formation of the St. Lawrence System, through which the Commission served municipalities on the north shore of the St. Lawrence River between Cornwall and Brockville; the Wadells System, following purchase of a power site on the Severn River; and other acquisitions which led to the formation of the Eugenia and Muskoka Systems.

The Southern Ontario System continued to grow with the creation in 1916 of the Central Ontario (and Trent) System. Here was a transaction involving the water rights and facilities of a total of 21 power companies on the Trent Canal and South River.

Developments over the next ten years included formation of the Pine River and Rideau Systems, the combining of the Eugenia, Severn and Wadells Systems into the Georgian Bay System, and the absorbing of the Muskoka System into the Georgian Bay complex.

Another sturdy advance toward consolidation came in 1929 with the completion of high tension lines to supply the St. Lawrence, Rideau,

Ottawa and Central Ontario Systems with power from the Gatineau Power Company. All these systems, the Ottawa excepted, were then physically combined to form the basis of the Eastern Ontario System. Eventually the Ottawa and Madawaska Systems were absorbed as well.

Financial and physical integration of the Niagara, Eastern Ontario and Georgian Bay Systems was achieved in 1914, when the Commission amalgamated the three systems into the Southern Ontario System.

In the north, as in the south, systems had been developing from isolated power sources and loads in localized areas. Gradual interconnection came as the loads and generation increased, beginning with the formation of the basis of the Thunder Bay System in 1910 by the delivery of power to Port Arthur—the first power supplied by the Commission in Northern Ontario.

Formation of the Nipissing District in 1916 followed the acquisition (mentioned earlier) of plants on the South River near Nipissing.

Expansion and consolidation in the north was steady but not spectacular until an upsurge in mining activities in the late twenties and through the thirties led to the formation of the Sudbury, Patricia and Abitibi districts and contributed greatly to a further opening up of northern mineral resources.

Major move toward consolidation in the north in the thirties was the creation of the Northern Ontario Properties—an agreement by which the Commission was empowered by the Ontario Government to supply service to loads in Northern Ontario

as separate and distinct from the supply of electric service to the Thunder Bay coast municipalities. The various districts continued to be operated independently, however.

Important developments in the next ten years included purchase in 1914 of all the Ontario assets of the Northern Ontario Power Company. This was followed a year later by the introduction of a new uniform rate to all mining customers to assist the mining industry throughout Northern Ontario. This move which, in effect, brought financial amalgamation to the districts comprising the Northern Ontario Properties, also did much toward launching the post-war industrial boom which was to be so dependent on the raw materials of the northern part of the province.

So it was that, by 1952, two main systems had evolved. First there was the physically and financially-integrated Southern Ontario System, and second, in the north, the Northern Ontario Properties, which Ontario Hydro operated in trust for the province of Ontario (excepting the Thunder Bay group of municipalities, which continued to be costed independently). An electrical interconnection between the Northeastern System and the Southern Ontario System was established in 1960.

(Administration of the day-to-day operations of the two systems is handled through a regional organization set up in 1947.)

Now the historic year 1962 has finally seen a complete financial amalgamation of north and south into one dynamic system—a "Hydro family tree" with a deeprooted tradition of service.

## ADVANTAGES IN THE SINGLE SYSTEM

The financial amalgamation of north and south into one dynamic system promises several important advantages, some of which are already evident:

1. A more just allocation of costs and benefits than formerly when there were three financially independent systems.

2. Because a more economic development of resources may be undertaken, there will almost certainly be an advantageous effect on future costs.

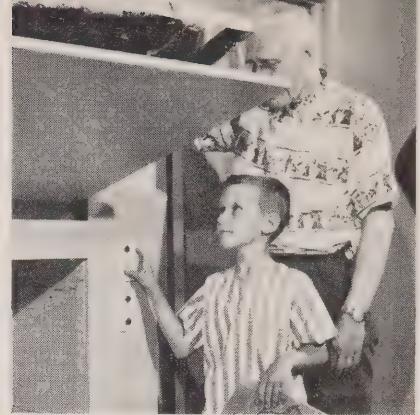
3. The new system is better balanced and more able to withstand economic swings and fluctuations of nature.

4. There is now a larger set of reserves for contingencies.

5. Long range rates are more stable and predictable.

6. It is an easier cost system to administer, and already economies are beginning to show up that result from doing away with duplication in bookkeeping.

*Photo, right, shows powered bunk beds which make a garage into a bedroom at touch of a button. Fireplace ashes, lower photo, are moved to garden area by motorized conveyor.*



## 24 KARAT GOLD MEDALLION HOME

Did you know that a modern home will have up to 30 fractional horsepower electric motors performing tasks ranging from the silent removal of kitchen odors to the operation of a heat pump or the effortless opening of a garage door?

If this seems like a lot of domestic horsepower, consider the case of Lisle Hodell, Fort Wayne, Indiana, manager of the motor department of a large electrical manufacturing concern. Determined to set an example of the ultimate in better electrical living in his own Gold Medallion home, he has more than a hundred motorized helpers at work indoors and out. They do everything but set out the milk bottles and bring in the cat.

Motors lower bunk beds from the wall, move ashes from the fireplace to the flower bed, open and close draperies, vacuum-brush clothes, turn the Christmas tree and scrub the family teeth.

A central built-in vacuum cleaning system is piped from each room to a utility area where dust is emptied into an incinerator. A connection with the patio makes this outdoor living room a cinch to clean. In the patio pond, a motor-driven pump creates a waterfall. And just in case anyone is forgetful, a sweep motor in

a master control panel off the living room directs a search across all circuits, turning lights off.

Where motors leave off in the nine-room, two-bath Hodell homestead, other electrical devices take over.

All-electric heating is provided by radiant coils in the ceiling and by cables laid below the sliding glass doors and full-length windows around the patio. Special fluorescent ballasts permit dimming or brightening of living room lighting.

For night-time comfort on the patio, a portable evaporative cooler sprays an aromatic insecticide to repel mosquitoes. A companion device in the flower garden attracts insects with "black" light, whereupon a suction fan pulls them into a disposable plastic bag. Specimen trees are illuminated with spot lights, and outdoor work is made easier with the use of an electric hedge trimmer, mower and edger.

Finally, the "kids" room, where grandchildren can be comfortably accommodated on visits, quickly transforms from an extra bedroom to a play room and to a garage. In the latter instance, an air-tight door may be opened or closed by a button in the car which activates a motor driven door operator.

*(Courtesy Electrical World.)*

### MOTOR ROUNDUP

Here's how the motors are used in the Hodell home.

**Kitchen** (22) six major appliances, 11 table appliances, vent fan, curtain motor, deodorizer.

**Dining Room** (2) curtain motor, fan.

**Library** (12) radio and movie equipment, dictating machine, clock, pencil sharpener, eraser, vibrating chair, shadow box, fan.

**Living Room** (7) fire place ash removal, coolers, fan, TV control, curtain motors.

**Patio** (3) pump, cooler, insect catcher.

**Bedroom No. 1** (8) coolers, exerciser, vibrator, sewing machine, curtain motor, bed vibrators.

**Bedroom No. 2** (1) fan.

**Bathrooms** (10) fans, heaters, hair dryer, refrigerator, condenser, shavers, toothbrush.

**Hall and Attic** (3) fans.

**Utility Rooms** (8) central vacuum system, garden equipment, polisher, vacuum cleaner, fan.

**Garage** (5) door opener, shoe polisher, record player, bed motors.

**Workshop** (14) power tools.

**Miscellaneous** (8) powered toys, Christmas tree turner, clothes and hat brushes.

# Dear Sir:

*We take pen in hand to point out some ways in which you might improve your business letters.*

You would like Tom Smythe. He doesn't look like another Jekyll-and-Hyde.

Tom is a well-dressed, friendly chap. He keeps a tidy desk and takes pride in neatly-typed letters. He certainly isn't stuffy on the 'phone.

But something chilling happens when Tom starts to write. He freezes. His letters conjure up a grotesque figure in baggy pantaloons, stained waistcoat, winged collar and crumpled cravat.

Why? Because Tom writes letters like a Victorian drygoods merchant seated on a four-foot stool at a cluttered desk. They sound like Letter No. 1 accompanying this article.

With a little effort, Tom could write bright, friendly letters that convey his message clearly, concisely and effectively like Letter No. 2. You can write good business letters, too, if you will observe a few basic rules.

A National Office Management Association survey estimates the average business letter costs \$1.83. So a poor letter wastes money—a flood of them costs a fortune.

They may waste your reader's time if he has trouble understanding you, and you may waste your own time too. One survey shows that follow-up letters comprise about 17 per cent of a business firm's mail. These are sent to clarify something that should have been clear in the first letter.

Before you write, ask yourself if a telephone call will do a better job. It may, because a 'phone conversation is informal and more personal. But if the situation clearly calls for a letter, keep that 'phone conversation in mind and you will get off to a good start.

Imagine you are talking on the 'phone or sitting opposite the reader at a table. In conversation you wouldn't use fossilized phrases

like "esteemed favor", "trusting this will give you satisfaction" and "beg to acknowledge." Once these were in vogue, but they have no place in a modern business letter. You should write as you speak.

Avoid hackneyed phrases like "we wish to state" and "enclosed herewith and attached hereto." Cut out deadwood that clouds your meaning like "due to the fact that." Use "because" and save four words.

A good business letter has three qualities: It's clear. It's concise. It's courteous and friendly.

Your letter can have them all if you plan what you are going to say. Marshall all the facts. Prepare to answer the questions in the reader's mind. A rough outline will help make your letter concise and clear.

Then relax—and write in a conversational tone. Here are a few suggestions that will help:

- Use short words and short sentences. A familiar verb like "use" is better than "employ". A short sentence is easier to read.

- Avoid jargon. Abbreviations or technical terms may be tweedle-de-dum to the reader.

- Use active verbs rather than passive. Passive verbs are weak, but active ones drive your sentences. Which sounds better?

His top hat was knocked off by a snowball. (Passive.)

A snowball knocked off his top hat. (Active.)

- Sprinkle your letter with personal references, especially "you". Pronouns like "I", "we" and "you" add a friendly tone. But don't overdo the "I's" and "we's" or you will overexpose your ego.

It's also a good idea to call your reader by name: "Thank you, Mr. Jones, for telling us. . . ."

After you have written the letter, read it over carefully. You may have to rephrase some sen-

tences to ensure clarity. And you may make it more concise by pruning useless words.

Here are a few examples of ugly deadwood and suggested alternatives:

Enclosed please find—I am enclosing

In the event that—if

In the amount of—for

At the present time—now

The writer—I

Ult., Prox., Inst. — State the month

At your earliest convenience—as soon as possible

To this office—us

By return mail—Immediately, or as soon as possible

Don't use rubber stamp openings for letters. Use a friendly opening that hits the nail on the head. Compare these.

- This will acknowledge receipt of your letter of . . .

Thank you for your interest in . . .

- In answer to your letter of . . . please be advised . . .

I have just the information you asked for in your letter of . . .

Does the closing of your letter dangle? For example: "Hoping this gives you the information you want, we remain, etc."

Your ending should have warmth and punch. Try this: "Have I given you all the information you wanted?" Or: "If you wish further information, please let us know."

A good complimentary close is "yours sincerely" or "sincerely yours."

Writing business letters may always be a headache to you, but they needn't give your reader a headache. Don't write merely to impress. Write simply and naturally to communicate your ideas.

Just relax and make your letters warm, friendly and human.

—by Bob Morrow

## *Letter No. 1*

My Dear Sir:

We hasten to take pen in hand in response to your esteemed favor of the 25th Inst. Beg to advise that we are unfortunately unable to fulfill your kind request for one dozen (12) Empire-brand widgets until the middle of next month. We are indeed regretful that the unprecedented demand for Empire-brand widgets has temporarily exhausted our usually ample supplies and hasten to assure you that we will forward with all despatch one dozen widgets as soon as we receive a new shipment by express packet steamer from Empire Widgets Corporation, London, Eng., S.W. 4.

Deeply regretting this inconvenience but trusting this arrangement will prove satisfactory to yourself, whom we regard as an extremely valuable client, we remain,

Yr. Obedient Serv't.,  
Throckmorton P. Smythe

## *Letter No. 2*

Dear Sir:

Thank you very much for your Feb. 25 order, Mr. Jones. Heavy sales have cleaned out our stock of widgets but you can count on receiving them by March 15.

Sorry for the delay—we didn't expect widgets to sell like hotcakes. But you can be sure we won't be caught short a second time. When the ship arrives from England we will be able to fill all orders promptly.

Sincerely yours,  
T. P. Smythe

What's wrong with Letter No. 1?

The language is as awkward and archaic as a scratchy quill pen. The writer gushes. He bows, scrapes and rubs his hands like Uriah Heep. His stiff, formal tone smacks of plug hats and spats.

It lacks a ring of sincerity. You can't believe those extravagant regrets. Can you imagine anyone unhappy about selling out his stock of widgets?

It's difficult to read. The writer uses long, windy sentences, pretentious words and hackneyed phrases. You wouldn't speak that way.

Now compare Letter No. 2.

It's concise. Short words and short sentences save the reader time. It's definite. Above all, the tone is as friendly and conversational as a telephone call.

Which letter would you rather receive?

Engine idling might seem like small potatoes to the average motorist who isn't too much concerned with how much rich mixture the family jalopy guzzles when its standing still, but to a fleet owner like Ontario Hydro, with some 1,400 transport vehicles in operation, hundreds of thousands of dollars are involved.

It takes some \$3,000,000 a year to keep the Commission's transport fleet on the road, and there is about \$10,000,000 worth of it. Repairs alone are estimated at a whopping million dollars a year.

When you're dealing with figures of this size, small percentages add up to a lot of money. Pare 10 per cent off operating costs, for instance, and \$300,000 has been saved.

*Ontario Hydro is saving money by adopting scientific methods to the operation and maintenance of its huge transport and work equipment fleet.*

Idling time came in for searching analysis after preliminary studies suggested that the annual cost of fuel, servicing and repair on truck engines due to engine idling might be as high as \$400,000.

E. F. G. Bird, application engineer at the A. W. Manby Service Centre, points out that the major portion of this money probably goes into heating cabs and crew compartments of line trucks.

Thus it was that a simple recording thermometer in the cab was included when four vehicles were recently instrumented in an effort to determine exactly what happens to a vehicle when it's actually on the job.

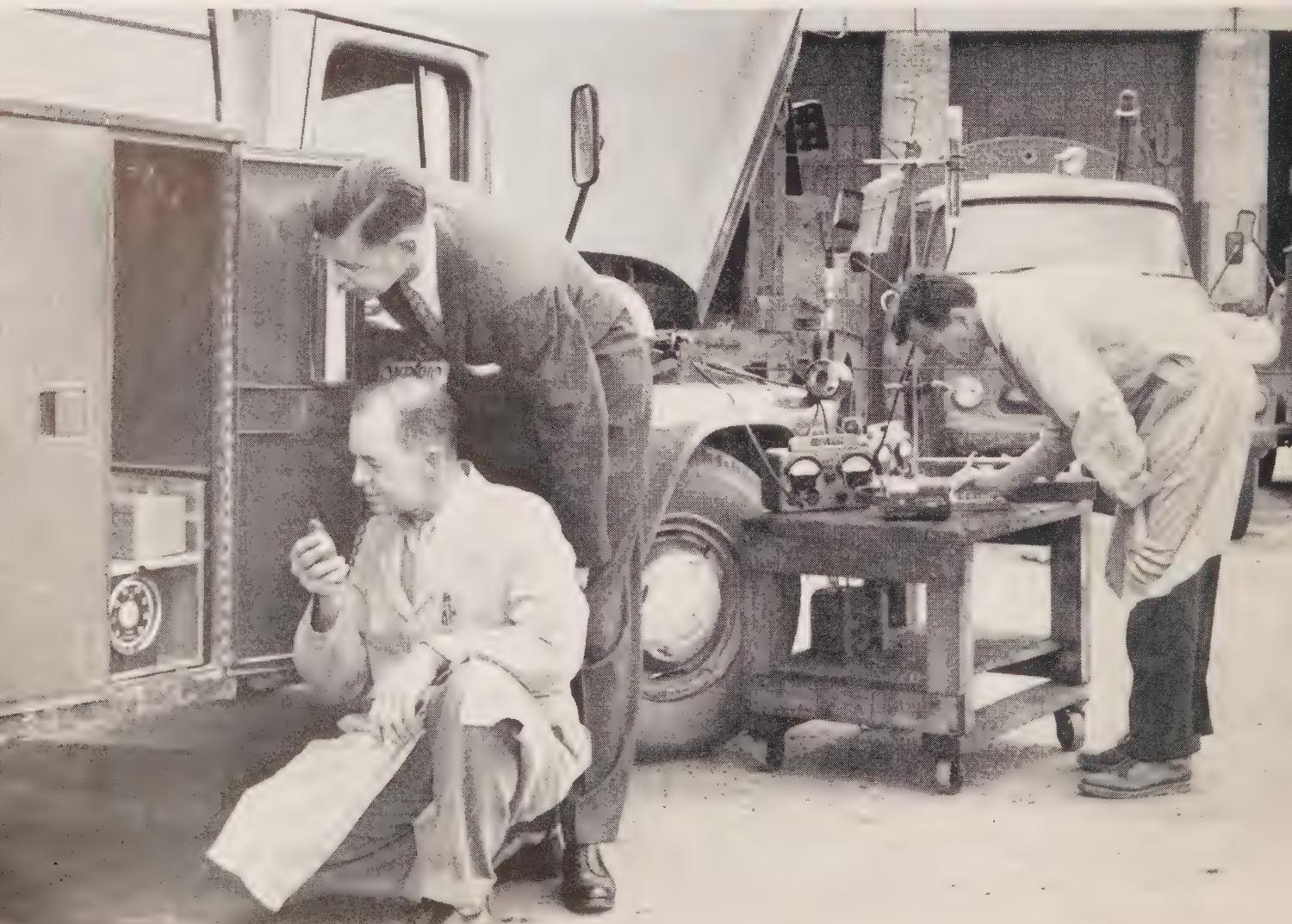
The men in the Research Division directly handling the studies are engi-

neer Bern Holmes and Bob Meharg. "We know that it is important to provide adequate heat for the men who handle our trucks," Bern says. "The question is, basically, whether engine idling, as presently practised, is the best way to do it. We tend to doubt it."

For that reason, the Structural Research group is testing alternate sources of heat; types of heaters that may initially cost more but will be cheaper in the long run by reducing idling costs. Bern is confident they'll eventually find a suitable unit which is more economical to operate.

Getting down to fundamentals, he describes the study as "a matter of obtaining factual values for quantities which previously had to be esti-

## SCIENTIFIC PENNY-PINCHING



mated in economic studies. Also, the results of the study may be useful for staff education."

For example, two-way radio is vital in a line truck. But some drivers didn't know that it takes much less power to receive than to transmit. Others felt that engine idling was necessary to prevent the radio load depleting the battery. In fact, radio-equipped trucks usually have high-capacity batteries and low cut-in heavy-duty generators to offset radio loads.

Recording ammeters were installed in such a way as to permit analysis of the load on the vehicle's electrical system. These instruments have already confirmed that transistorized radios draw about one ampere,

whereas tube-type radios use 10 amperes, or about as much as the headlights. They cost more than tube-type radios, but Hydro hopes to establish, scientifically, whether or not, in its own operations, the lower operating cost would outweigh the higher purchasing price.

It was carefully explained to the drivers that the tachograph had been installed for the same purpose as the other instruments—to reveal how the trucks operate and not to tell tales on the driver.

The tachograph shows, minute by minute, the engine's rpm's and vehicle motion. Thus a reading of, say 800 rpm for eight minutes with no vehicle movement, clearly indicates idling time.

Four trucks were instrumented last year, and the equipment will be switched to four others after a suitable test period has elapsed. As in any laboratory experiment, representative sampling is important, so line trucks and service trucks are being included. Half are equipped with transistorized radios. They're based in different parts of the province.

A separate Research team is also studying operating costs from other directions. One is preventive maintenance.

PM is what the name implies, and encompasses inspections, lubrication, adjustments and minor repairs that prevent breakdowns.

At Ontario Hydro's 1962 Fleet Management Conference, G. M. Pedlar, mechanical maintenance superintendent at the Commission's Little Long G.S. project in Northeastern Ontario, said PM is working so well with tires that "downtime due to flats is almost nil, and all tires on our heavier equipment are kept well matched." He explained that a complete history is kept, on a card system, of every tire, with the exception of small tires on half-ton trucks and passenger cars.

By anticipating trouble, preventive

maintenance reduces the need for stand-by equipment and cuts down on what mechanics call "panic repairs". This kind of emergency work not only increases the likelihood of faulty repair but also disrupts routine and adds to overtime costs.

Transport and work equipment replacement is another big item under constant study. Depreciation is a complicated matter, with at least half a dozen major methods in use. Ontario Hydro has devised an effective system of its own, but there are so many variable factors that rules of thumb are impractical.

Since prices fluctuate, replacement cost often bears little resemblance to purchase price. Then, too, when replacement time comes, there is no assurance that the vehicle should be replaced by another of its own kind.

And these three factors—preventive maintenance, replacement studies and idling time research—are only major, overall headings in a complex plan to bring transport and work equipment costs down.

Not many years ago, the average operating cost per mile for Ontario Hydro vehicles was calculated at about 25 cents. Today it's down to 19 cents, with some locations reporting 15 cents.

Detailed specifications are compiled to ensure that the right size and power of vehicle is purchased to suit the job for which it is required. And the issuance of a comprehensive drivers' Handbook in 1959, updated in August, 1962; daily vehicle checks and regular area meetings on fleet management have all contributed to the lower costs.

But what is most important is the informed co-operation of everyone who drives a Commission vehicle. Driver attitude and knowledge can save money all down the line—on maintenance, repairs, fuel, longevity and insurance. The man behind the wheel must be informed and he must be sold on the validity of the instruction he receives.

*Testing the recording devices installed in a service truck, group, opposite page, includes Bill Butler, Bernard Holmes and Bob Meharg. Clock-like device on truck is a tachograph which records rpm's and vehicle motion. Photo, top left, shows Technician Bob Meharg checking performance of truck heater in research lab. In lower photo, Bruce King and Armon Tripp, Central Region auxiliary line crew, carry out regular "circle check" before setting out on job.*

LOOK BEFORE YOU LEAP—

UNDERGROUND

*In a paper outlining A.M.E.U. policy with regard to underground distribution, John Torrance, vice-president of the Association and Chief Engineer, Etobicoke Hydro, offers some sound advice on system planning.*

"Considerably more emphasis must be placed on planning underground distribution than is required for an overhead system. This is because the overhead system, being readily accessible, is more flexible and can be added to, or modified to suit changing loads or other requirements without too much difficulty.

"The different approaches utilities use towards planning is partly responsible for the variation in the overall design of underground systems and, subsequently, the cost. In planning, a utility is usually looking for a system that, consistent with economy, will give a high degree of service continuity, is capable of maintenance, is safe both to the public and to utility employees, and can supply present and future loads without expensive modifications."

With this introduction, Mr. Torrance discusses underground distribution planning in new residential areas under the following headings:

#### LOAD SIZE AND DENSITY

It will be necessary first to determine the number of single family homes, apartment buildings, schools, shopping centres, etc., before a design can be commenced. Knowledge of present and future loads is important in the planning stage. The underground system must be designed to provide for load growth even though this means the installation of expensive plant facilities which will not be required for some time.

#### PHYSICAL CONDITIONS

Builder co-operation is essential in

order that final grades can be established before the installation commences. Co-operation is also required so that the selected right-of-way may be kept clear of earth, building material and other obstructions.

#### LOCATION

Unless cables can be laid underneath sidewalks, they are probably subject to more damage in street location, from the operation and maintenance carried out by other utilities, than they would be in rear-lot construction. This must be balanced against accessibility of site for maintenance and consumer relations problems which are more likely to occur when working on private property.

#### TIMING

Winter construction will seriously influence the cost of installation. Wherever possible, all work should be carried out during periods when the ground is not frozen.

#### TRENCH SHARING

Economies can sometimes be effected by sharing the trench cost with telephone and television companies. Experience has shown that one organization should perform the entire installation if money is to be saved.

#### SERVICE SECURITY

While service interruptions are likely to be less frequent with underground construction, they will occur and must be provided for. It is necessary, in planning an underground system, to build in adequate facilities to avoid lengthy interruptions should a fault occur. This factor, more than any other, accounts for

discrepancies in estimating underground costs. Each utility must decide for itself the degree of security required.

#### MUNICIPAL REGULATIONS

Planning commissions sometimes make decisions on subdivision layout without consulting the utility, which can seriously affect the ultimate electrical design. Zoning changes can have a detrimental effect upon system planning and, therefore, costs.

Street lighting and distance of the load to be served from the substation were other factors discussed by Mr. Torrance.

On the subject of financing, he reviewed conventional procedures and drew attention to one case where a "fairly high" minimum bill is charged to customers in a given subdivision with underground services. The minimum bill guarantees the utility a sufficient revenue to carry the underground cost.

"It should be noted," he said, "that they are on the normal rate, and, if their bill exceeds the minimum bill, they have paid no extra cost because the bill is large enough to carry the increased investment. On the other hand, the customers who do not use sufficient power will have to pay the additional charge imposed by the minimum bill."

He named experience, improved conductor insulation, standardization, and joint use of trenches as distinct areas where cost reductions will be made as the science of underground distribution is advanced.

*New techniques and equipment are reducing cost of underground distribution. Group, opposite page, is examining tractor-mounted plow and reel used by Ontario Hydro to lay cable at up to 176 feet per minute. Photo, far right, shows meter base designed by Ontario Hydro for subdivision with underground wiring. Service conductor enters house below ground level and only meter is visible. Centre of attention (right) is joint-use pedestal introduced by Brampton Hydro which accommodates electric, 'phone and TV antenna services.*





# along hydro lines



## Scottish Hydro Chairman

During a recent visit to the United States and Canada, Lord Strathclyde, Chairman of the North of Scotland Hydro-Electric Board, took advantage of the occasion to spend a day inspecting Ontario Hydro's giant Niagara River developments. He is shown, right, at the reception centre, Niagara Falls, with Ontario Hydro Chairman W. Ross Strike, centre, and J. M. Hambley, general manager. ■

## Port Credit Marks 50 Years of Hydro

When the wreckers moved in to demolish the home of Charles Elliott, 49 High Street, Port Credit, recently, it was only fitting that the property should become the site of Canada's first apartment building to be heated electrically on the thermal storage principle. Half a century earlier, Charles Elliott, first reeve of the Village of Port Credit, was among the



first domestic customers when Hydro came to the community in 1912.

To mark the 50th anniversary of Hydro service, Ontario Hydro's First Vice-Chairman, George E. Gathercole, and Robert J. Boyer, Second Vice-Chairman, recently visited the utility office to personally congratulate the Port Credit staff and commissioners.

Mr. Gathercole traced the rapid growth of Port Credit P.U.C., whose customers had increased from 1,300 in 1952 to more than 3,000 at the present time, and he said the whole community would continue to grow because of its strategic geographic location between Hamilton and Toronto. He pointed out that one of the world's largest thermal-electric plants, Lakeview G.S., was taking form on the town's doorstep.

Port Credit P.U.C. Chairman E. C. Drew revealed that he had worked for Ontario Hydro some 50 years ago as a lineman, and he recalled some of his experiences in the earliest days of Hydro development in the area. Mayor Saddington said he was proud of the record established by the Hydro department, and of the efficient staff which had served the community so well.

From the left in the photograph are: Mayor J. C. Saddington; Mr. Boyer; Mr. Gathercole; A. F. Warner, commissioner; Chairman Drew; Adam Smith, manager, Central Region; W. H. Munden, P.U.C. manager; and C. E. Crease, Regional consumer service engineer. ■

## LOAD-BUILDING

*Load building is here to stay, and, as an essential utility function, it requires all the perseverance and ingenuity at our disposal. This column will be glad to hear from anyone with a fresh approach to the subject or a new twist to a traditional procedure.*

There is no magic in the fact that Ontario Hydro and the municipal utilities have maintained a stable, low level of rates despite a substantial increase in costs, Chairman W. Ross Strike told the Rotary Club of Toronto recently.

It has been achieved by striving for efficiency and economy in operation and by the increasing kilowatt-hour consumption of customers, he said. More than 350 persons heard Mr. Strike speak at the Rotary Club luncheon meeting at the Royal York Hotel.

Capital cost of electric utilities is very high in relation to annual revenue, said Mr. Strike. "We just have to get as much diversification in our load as possible—keep it working in as many of the 24 hours a day as we can if we are to keep our costs down. This is especially true for our municipalities."

Mr. Strike pointed out there had been no problem for at least 12 years after the Second World War, when the pent-up demand for goods and services was released. Kilowatt-hour consumption per customer rose constantly as the number of electrical appliances available for the home doubled.

"We realize, however, that over the years the buying habits and attitudes of people have changed

radically. The old standards of the market place no longer apply. There are many new and glamorous attractions for the purchaser's dollar, and the competition is keen and resourceful."

"For all these reasons," said Mr. Strike, "load building for the utilities has become a built-in function that will not only endure, but expand for the foreseeable future."

#### Incentives to build load

Incentives can be helpful in load building, and a number of utilities are using them to good advantage in their attempts to promote greater use of electric energy.

These range from cash bonuses, as in the case of Welland Hydro, where customers up-grading their electrical services are paid a substantial portion of the cost involved, to more sophisticated plans adopted by several utilities whereby reductions are made in the charge for underground wiring where specific load-building appliances are installed.

Among the latest incentives to come to our attention is one employed by Seaforth P.U.C. where each customer who qualifies under the "all-electric" rate, recently adopted, is presented with a free, modern, fast-recovery water heater and tank.



A modern electric water heater and tank are presented to Mr. and Mrs. J. E. Muir who built Seaforth's first electrically-heated home. Left to right are: D'Orleau Sills, P.U.C. chairman; Mr. and Mrs. Muir; Richard Box, commissioner; and Mayor Edmund Daly.



One hundred silver dollars are the award of Dwight Janisse, proud owner of the first all-electric home in St. Clair Beach. Members of the local Hydro system making the presentation, from the left, are: G. S. St. Pierre, secretary; J. W. Duffy, chairman, and E. A. Laforet, superintendent.

And customers of St. Clair Beach Hydro who build all-electric homes, or who convert to "all-electric living," are presented with one hundred silver dollars. It is the intention of the St. Clair Beach commission that the money be used to help defray costs associated with the electrical installations. ■

#### Leading Hydro Personality Dies at Carleton Place



Few personalities have been so active for so long in promoting the welfare of Hydro in the province as M. W. "Mort" Rogers, P.Eng., Carleton Place, and news of his recent death was received with regret throughout the electrical industry in Ontario. He

was in his 70th year.

Manager of the Carleton Place Public Utilities Commission for 38 years, Mr. Rogers had been active in affairs of the Association of Municipal Electrical Utilities from the outset of his Hydro career. He was elected president of the Association in 1951, and he had been a member of the President's Counsel since it was established in 1957.

Perhaps the highlight of his municipal Hydro service came in 1959, when friends from all parts of the province assembled in Carleton Place to confer on their respected and popular colleague the A.M.E.U.'s highest tribute—an honorary membership. It was made in recognition of his contribution to the growth and technical advancement of the province's municipally-owned electrical systems.

Born at Perth, Mr. Rogers received his early education there before attending the Armour Institute of Technology at Chicago. He served for some time with the Perth P.U.C. before coming to Carleton Place in 1924 to take charge of the Hydro and Water utilities.

Mr. Rogers was a Past Master of St. John's Masonic Lodge, a Past first Principal of Maple Chapter, and a Past Grand Superintendent of the Grand Chapter in Canada, Ottawa District.

He is survived by his wife, the former Isobel McMaster, and a sister, Mrs. Scott H. McLeod of Calgary. ■

#### Cobourg Completes Lighting Program

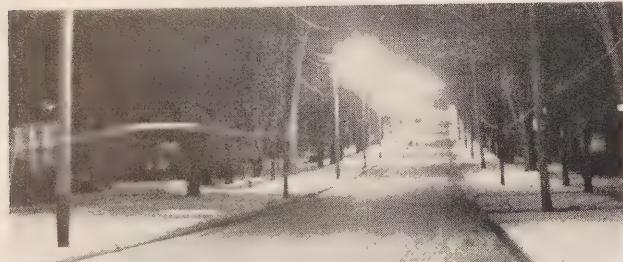
An ambitious five-year lighting program launched by the Public Utilities Commission of Cobourg, Ontario, in 1957, has recently been completed, and this pleasant town on the shores of Lake Ontario, east of Toronto, is now illuminated entirely by fluorescent light.

During the course of the program, carried out at a cost of more than \$100,000, a total of 963 lighting units were installed, including 570 2-foot H.O. units and 393 4-foot H.O. units. Removed from service



△ Before

After ▽



were 584 fixtures, mostly 100 watt incandescent radial wave units.

The "before and after" photographs of a Cobourg residential street suggest the improvement. Spaced approximately 250 feet apart in both instances, mounting height was raised from 18 feet to 25 feet above the road, and the 100 watt radial wave units with open-type reflectors were replaced with 196-watt, 2-lamp fluorescent units. ■

## MUNICIPAL BRIEFS

**Village of Forest Hill** now has a municipal building in keeping with the high calibre residential area it embraces. Built at a cost of \$640,000, the two-storey brick structure at 666 Eglinton Avenue West is electrically heated and air-conditioned. It was officially opened by Lieutenant-Governor J. Keiller Mackay. In Forest Hill, village council constitutes the Hydro commission.

**Fort William and Port Arthur** were the scene of the latest commercial lighting "blitzes" being carried out by Ontario Hydro in co-operation with the local utilities. During these campaigns, Ontario Hydro lighting consultants visit local businessmen who have expressed interest to suggest ways in which lighting can be improved from the standpoint of appearance and level of illumination. On-the-spot recommendations are made or complete lighting layouts submitted on request.

Several familiar faces will be absent from the municipal Hydro scene, at least temporarily, as the result of recent elections held in many parts of the province. Among the hard-working and experienced commissioners who met defeat at the polls were: E. B. Higgins, Swansea; Amos Waites, Mimico; W. B. Elliott and F. R. Cavers, St. Catharines; Mayor J. L. Skillen, Dryden; and Joseph Bull, Collingwood.

**Etobicoke Hydro** plans to introduce a monthly charge of \$3.56, subject to a prompt payment discount of 10 per cent, for 1,000/3,000-watt controlled

flat rate water heaters. This is equivalent to the rate presently charged for 1,000/1,000-watt units. In order to ensure satisfactory water heating service, the utility intends to discontinue supplying the smaller unit and to change all existing 1,000-watt upper elements to 3,000 watts at its own expense.

**Sarnia Hydro** has announced that some 700 older water heaters on rental throughout the city will be called in and replaced with 40-gallon fast-recovery units over the next two to three years.

**St. Thomas P.U.C.** has come up with a unique way of stressing the importance of electrical safety in the home, and, at the same time, adding lustre to the utility's already bright corporate image. Every residential customer has been mailed a 15-ampere fuse attached to a card which can be hung near the fuse box. Electrical safety tips are listed on the card together with the telephone number of the home fuse replacement service.

**Chapleau Hydro** has moved into new quarters and to mark the occasion, townsfolk were invited to inspect the new facilities. They met representatives of Ontario Hydro and the local utility over a cup of tea.

**Brightest Christmas** ever is reported by Sarnia Hydro commissioners, who say they have never before seen as many outdoor electrical decorations. Revenue directly attributable to this source is estimated at \$20,000.

**As a public service**, Toronto Hydro offers a program for group functions which can be presented as a unit or in three parts. It consists of a film depicting the history and development of Hydro, a series of slides explaining the distribution system, and a safety demonstration complete with models and other equipment.

**Electric Service League Chapters** in Kingston, Brockville and Cornwall have combined to organize a one-night exposition in each of the three municipalities on electric heating in observation of National Electrical Week, February 11 to 16. The League is suggesting that other Chapters consider the plan.

**In a year-end report**, James Currie, chairman of the Port Arthur P.U.C., called 1962 "a period of change, progress and achievement second to none in the commission's history." Among the projects scheduled for this year, he said, were introduction of machine billing, intensified sales promotion, office expansion and inauguration of a 10-year street-lighting plan.

**Among recent revisions** to the Standard Interpretation of Rates, prepared in co-operation with the Rates Committee of the A.M.E.U., is this new clause under Section XI:

"At the discretion of the Corporation and subject to the approval of the Commission, a kilowatt-hour rate may be set for separately metered electric space heating loads in commercial and industrial premises. Air-conditioning loads may be included with the heating loads and the combined load billed at this rate."

This clause provides an alternative method to billing at standard commercial service rates and, on approval, may be applied to certain electric heating applications.

**Tweed Hydro** dispensed a total of \$120 in prizes for a Christmas lighting contest, and while it reports that a great deal of interest was shown by home-makers, it felt that merchants might have participated more extensively.

**Personalities** in the news include *J. E. Henson* who has been appointed supervising municipal accountant for Ontario Hydro's Niagara Region. *J. S. Killingsworth* succeeds *Elmo Curtis* as London P.U.C. chairman. He had retired temporarily for health reasons in 1960, and was re-appointed to fill a vacancy late in 1961. Mr. Curtis has been appointed Parks chairman. *Asa W. J. Stewart*, 80, president of the A.M.E.U. in 1929 and a former president of the Electric Service League of Ontario, died recently in Toronto. He retired in 1952 from Toronto Hydro, where he had been manager of the Appliance Department. ■

## LETTERS to the editor

Dear Sir:

You can be excused for the fumble you made in reprinting excerpts from a Royal Bank News Letter on page 13 of the November issue of Ontario Hydro News since today we seem to feel that banks and bankers are unimpeachable authorities on more subjects than banking.

If you consult the source you quote at the bottom of your little article entitled "Don't Fumble with Amendments" you will find that the statement "If it carries, then the main motion is automatically carried as amended by the double amendment" is quite wrong. This error is a common misconception and has no basis in ordinary everyday logic. The bank's News Letter should have said that the original motion was to give \$100 to the Bell Ringers, that the first amendment was to substitute the sum of \$150 for the sum of \$100, and that the amendment to the amendment substituted a cash payment of \$50 and a sum of \$100 spread over the next five months for the cash payment of \$150.

The first item voted on is the last to be made—the amendment to the amendment. If that carried, it means that the amendment has been altered to read \$50 cash plus \$100 on time instead of \$150 cash. The amended amendment must then be put to the meeting. If it carries, it means that the sum specified in the original motion has been changed from \$100 cash to \$50 in cash plus \$100 on time. The amended motion must still be put to the meeting because there may be people, and a substantial number of them, who are not prepared to give the society anything.

You may argue that I am splitting hairs. If this appearance is conveyed it is because the example is a poor one to chose to illustrate the basic principle. Many motions—indeed most in my experience—come

before meetings badly drawn and poorly worded. Before the meeting can deal with such motions, proper amendments are required. The meeting must not be deprived of the opportunity to deal with a motion that has received the necessary tidying up, by the application of the quite incorrect, short circuiting procedure which your paragraph conveys as the correct way to handle amendments. What if, in the case of your example, there had been something else that needed amendment? It quite properly would have had to wait its turn, but the application of the rule you propound would have ensured that its turn never came.

Robert H. Hay,  
Kingston, Ontario.

Dear Sir:

We congratulate you on publishing a recent article "The Chairman calls the Signals." . . .

We would respectfully call your attention to paragraph 5 under the heading: "Don't fumble with amendments." It is improper to state "If it carries then the main motion is automatically carried as amended by the double amendment."

The purpose of an amendment is to perfect the wording of a main motion. Similarly, the purpose of a 2nd amendment is to perfect the wording of the amendment before the assembly decides to include this in the main motion.

It is dangerous to take for granted the main motion as being automatically carried; rather, it is proper to put all amendments 'ayes' or 'noes', then finally put the main motion, or the main motion as amended.

We enclose a copy of a letter from the Royal Bank of Canada in reply to similar correspondence on this subject. . . .

R. Baird,  
Toastmasters International.

**The Bank Letter Reads:**

Yes, our brief treatment of amendments caused quite a flutter among people who preside at meetings.

Bourinot and Robert agree with your view of the procedure, but we seized upon the more recent book by Stanford as being simpler. He says:

"When it is time to record a vote, the amendment is voted upon first. If it carries, the resolution as so amended is carried, and that is the end of the matter: if it is lost, a vote is taken on the main resolution."

However, his procedure has disadvantages and dangers, so we have inserted a section in the copies of our Letter now coming off the press. . . .

John R. Heron,  
Royal Bank of Canada.

**Editor's note:** The bank letter seems to settle the question, but we would humbly add W. G. Frisby's opinion:

"If the amendment to the amendment or the amendment carries, it is proper to put the original motion, as amended, before the meeting. *It is but a formal presentation and is generally conspicuous by its absence.*" ■

# OFF THE WIRES

From time to time we have had a word to say about the fast-spreading and highly desirable trend towards the use of seat belts in autos. Good ideas, like people, are hard to keep down, and it was, perhaps, inevitable that the use of safety belts should spread to other hazardous occupations besides driving.

According to *Highway Safety News*, seat belts now are standard equipment in the Picadilly Room of a San Diego, California, hotel, where all bar stools have them and bartenders insist customers fasten them before hitting the scotch and soda.

Biography is a fine television series, and if it helps to raise the standard of electrical living in the province, its Hydro sponsors will be satisfied. The apprehension of one of the world's arch-criminals may be a supplementary benefit.

It seems that a kindly old lady appeared at Ontario Hydro's head office recently in search of more copies of a publicity folder, which she had received with her power bill, advertising the new television series. Asked why she wanted them, she furtively pointed to the picture of Adolph Hitler and said "Its him, I saw him on the street last week. I know he's living in Toronto, and I'm going to catch him. There's a \$100,000 reward," she explained confidentially, and she needed the Biography folders to alert her friends to the villain's presence.

On the way to the door she was asked how she enjoyed watching the programs.

"Oh," she apologized, "I haven't got a television set, so I've never seen them. But," she added with a quick smile, "when I catch him and get the reward I'm certainly going to buy one, and I promise I'll watch your program every week."

During the war much was made of the number of personnel required to keep one man on the

firing line, and it seems that the same principle applies to construction jobs. To relate the total job to the effort they actually see when touring the project, J. S. Foster, manager, Douglas Point nuclear - electric development, gives visitors this interesting breakdown.

For every man working on the site there is:

- One man in Toronto working in a design office or a laboratory, or purchasing, scheduling and other similar work.
- One man in Canadian secondary industry, machining, forming, welding or performing some operation on equipment for the job.
- One man in Canadian primary industry cutting timber, mining or the like.
- One American making zircaloy, heavy water and stainless steel.
- Half a Briton making a turbo-generator and major pumps.

Assuming a somewhat similar breakdown for Ontario Hydro projects, the effect on the economy of the Commission's annual capital works, which considerably exceed \$100,000,000, becomes apparent.

This month's contribution towards a more picturesque speech is gleaned from the *Toronto Daily Star*. The opening paragraph of a report on underground distribution reads as follows:

"Overhead Hydro wires 'are strictly for the birds,' says North York Councillor Irving Paisley. But, compared with underground wiring, their installation cost is chicken feed."

Electricity's versatility has been underlined by a recent newspaper announcement concerning the opening of one of the most modern funeral homes in Northern Ontario. The building, according to the report, including two "slumber rooms", is electrically heated.

We knew, of course, that electricity gives a lifetime of service,

but didn't realize it went beyond that. Certainly there is something very final about the whole thing, and there are grave implications.

Any utility commissioner who imagines that unionism is a phenomena confined principally to organizations concerned with the supply of electricity will take comfort from a recent AP despatch which suggests that the movement is somewhat more widespread. It reads:

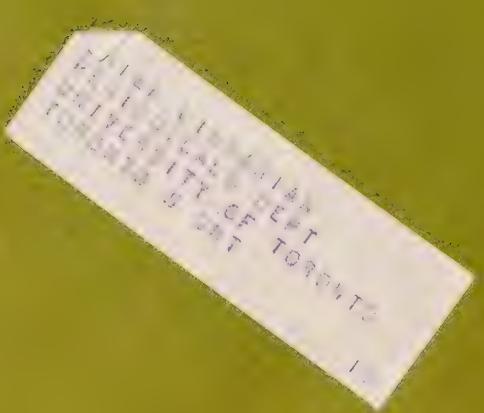
"Witch doctors in Nyasaland have formed their own union. Known as the Nyasaland Ngange Association, it has a written constitution and a set of strict disciplinary rules. Moreover, it is virtually a closed shop, as only witch doctors who are Malawi Congress party members may join."

Fringe benefits are probably a contentious issue, but we wonder whose fringe? And what are the implications insofar as socialized medicine is concerned?

Societies and associations are essential adjuncts of our civilization, but where do we draw the line? Take the case of a Los Angeles man who was recently interviewed on television regarding the formation of a Society For Protection Against Cruelty to Naked Animals. He stated that the purpose of the society was to educate people to clothe all domestic animals, claiming it was barbarous to continue to force them to move naked in society. Further, he wanted to gain legal sanction making it compulsory for owners to clothe their animals.

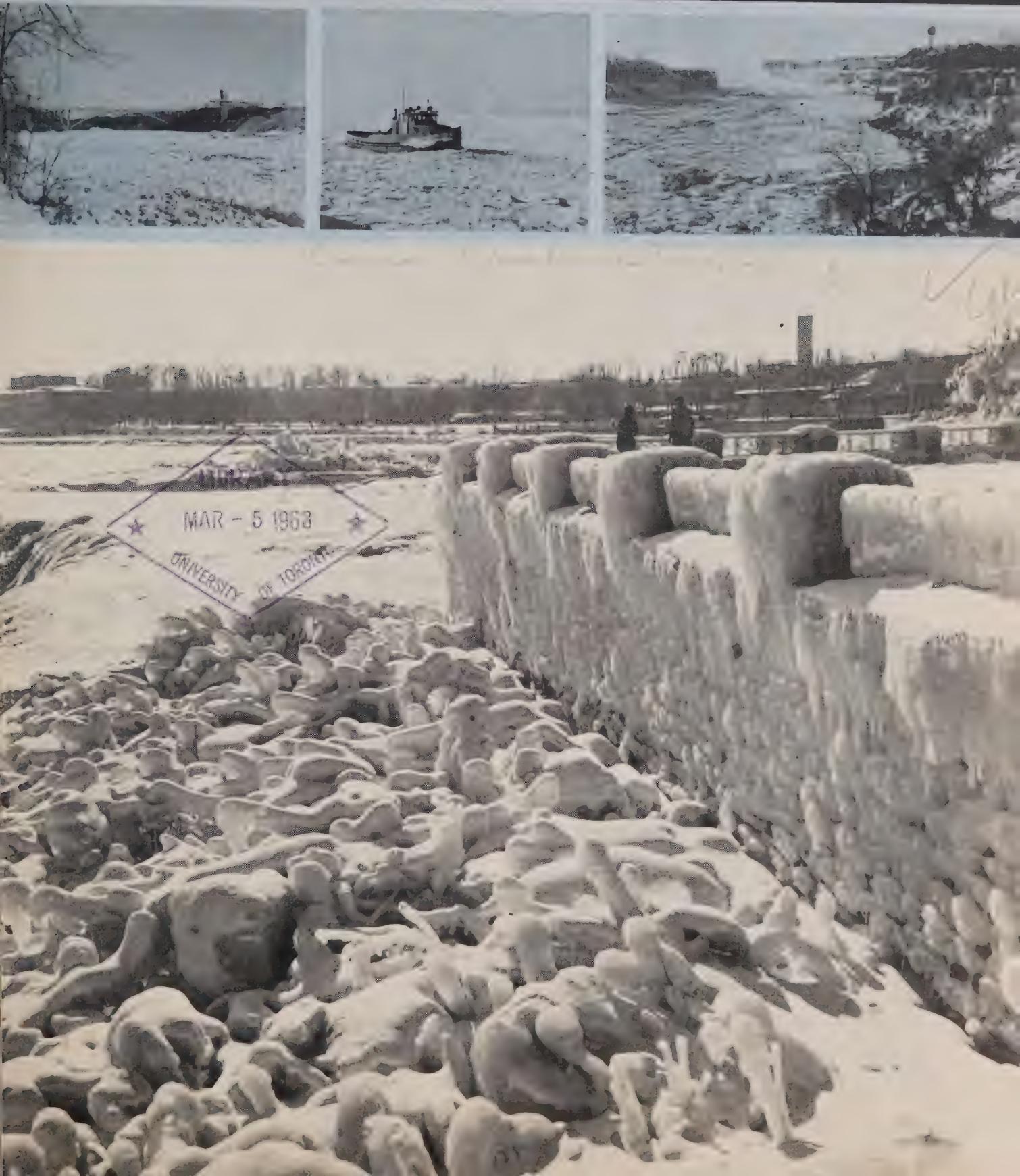
And, if the legislation is passed, consider the implications. City folk will be home free with only their cats and dogs to worry about, but what of the farmer? What manner of costume could he devise for a cow so that she would pass muster for decency and still permit access. And no doubt there would be udder problems. ■





Winter visitors to Niagara enjoy an ever-changing tableau presented by Nature. For man's contribution to the changing scene, please turn to page 18.

ONTARIO  
**HYDRO NEWS**  
FEBRUARY, 1963





Much of the material for our article on John Joseph Wright, page 14 of this issue, was gathered in a pleasant chat with his son Walter of Toronto. Belying his 82 years, as these photos suggest, Walter has spent much of his own life in the electrical business and he has a graphic recollection of his father "who could have been wealthy but wasn't interested in money." ■

FEBRUARY, 1963

## ONTARIO HYDRO NEWS

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### THE COVER

Ice is no newcomer to the Niagara but, as our cover scenes suggest, it reached serious proportions this year when the ice level in the gorge climbed some 60 feet above normal. Boat shown butting its way through ice floes is the Niagara Queen, Hydro's new icebreaker used to prevent ice build-up in the river above the falls.

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Editor: Don G. Wright.

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# URBAN TRANSIT IN TRANSITION

*Streetcars are Joining Steam Locomotives as Relics of a Bygone Era.*

by Gordon Murphy



dd to the list of sights disappearing from the Canadian scene the once numerous streetcars which, in days gone by, rattled their way through cities and towns from Halifax to Vancouver. Some look on their passing with nostalgia—others regard their withdrawal as a major contribution to the mental health of the community where the clang of the trolley has long vied with the blasting horns and assorted epithets of motorists in the fight for space in the jungle of modern urban traffic.

Paradoxically, Toronto, with Canada's first underground rapid-transit system and a new north-south feeder line scheduled for service shortly, is the only major North American centre where streetcars continue to play an important role in transit. And these, some 800 of them, are scheduled to clang their way to oblivion in the 1970s. With no second-hand market and few collectors interested in stowing a 25-ton tram in the back yard, these streamliners will go to the wreckers for something like 250 or 300 dollars. New, they cost about 45,000 dollars, but during

their lifetime they are likely to chalk up a million miles of relatively trouble-free service.

However uncharitably they may be remembered, streetcars have been an essential force in the expansion and development of our cities and towns. It was the streetcar that pushed back the municipal frontier to make suburbia a reality. And by permitting the mass movement of people to and from places of employment, they helped lay the groundwork for our industrial society.

Streetcars first came to Canada in 1861, when horsecars began operating in Montreal and Toronto. Constructed of wood, these cars were about 16 feet long, with open front and rear platforms and drop windows for ventilation. Winter was enemy number one to the earliest transit traveller as the only defence against the cold was a deep layer of straw on the floor of the car. Tram drivers were even hardier. Perched on the open platforms, they defied the elements with their apparel which often included great shaggy fur coats.

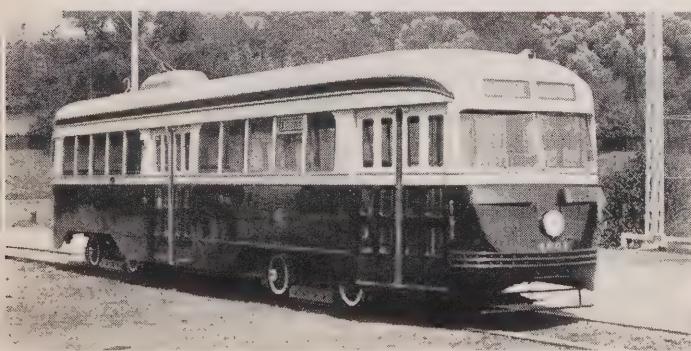
Coal-burning stoves were an early

refinement, and these belched out smoke and comfort, in the case of Toronto's Yonge Street "trailer" cars, until after World War II.

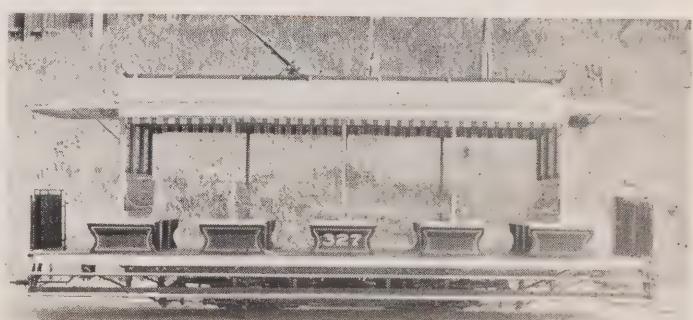
Speed limits are not a recent innovation, but the horsecar driver in Toronto had no difficulty in staying within the six miles per hour limit. Hazards faced by the stalwart drivers included a running battle for the right - of - way with other traffic attracted from the bumpy roadways to the comparatively smooth surface between the rails; and the problem of getting the cars off the tracks to make way for fire-fighting apparatus. Then, too, schoolboy passengers took great delight in derailing the cars by dashing from side to side and rocking them off the tracks.

Snow was a great obstacle in those days, and the appearance of a track sweeper in Toronto in 1891 created a great sensation. The first vehicle of its kind, the sweeper was drawn by no less than 12 horses.

But an earlier and less heralded event in Toronto was of much greater significance to urban transit. That was the unveiling in 1883 of the first



*Fast and comfortable, hundreds of these "streamliners" will continue to ply the streets of Toronto for some years to come. Last year they represented about 50 per cent of system's capacity and travelled on 198 miles of surface track.*



*Contrast the streamliner with this open model—a feature of the Canadian scene in the 1890s. Tram trips to the picnic grounds were popular outings in a less sophisticated age. Trams sported interchangeable bodies for year-round comfort.*



*This fearsome sight might have been witnessed in Toronto in 1893 when impressive safety devices to quiet fears of the timid were introduced shortly after electric trams made their initial appearance. Intrepid citizen in foreground is testing a fish net lifeguard. Open platform affords motorman little protection.*

commercial electric railway in North America at the Canadian National Exhibition. Dobbin's day was done as the mainstay of the country's urban public transit when, four years later, Canada's first electric street railway system went into operation

in St. Catharines. Victoria, Vancouver and Ottawa joined the changeover from horses to horsepower in 1890, and, in the next few years, Montreal, Toronto and other eastern cities followed suit. Ottawa is generally credited with fielding the first electric

trams to operate on a year-round basis.

The early designers may have been short on thermodynamics, but they showed ingenuity by constructing streetcars with interchangeable bodies so that passengers could enjoy some



**Grand-daddy of urban transportation, the horsecar remained on the municipal scene for more than 50 years. This one was photographed at old North Toronto Station in 1924. First Canadian appearance was in 1861.**



**Understandably, much ado was created by this 12-horse snow sweeper which made its appearance on Toronto streets in 1891. First of its kind, it was regarded as a major advance in the field of urban transportation.**

warmth in winter and plenty of fresh air in summer. Moonlight excursions in the open cars were popular at the turn of the century, as was the Sunday adventure of packing the family and a lunch hamper into an "open", at five cents for adults and a lesser tariff for children, and taking off for the seaside, lake, park or whatever happened to be the most popular natural attraction within the limits of the system.

Streetcars achieved their widest acceptance in Canada in 1920, when first main track mileage (the distance served by at least one main track) exceeded 1,700 miles and some 805,000,000 passengers were carried. Since then, with the exception of the war years, track mileage and the num-

ber of passengers have declined precipitously as the traditional tram has been displaced by more efficient and manoeuverable motor and trolley buses.

While the winds of change may be sweeping the streetcar right off the municipal map, disturbing gusts are playing with urban transit statistics in general. These reveal a steady decline in the use of all forms of public transportation, which is in sharp contrast to the growing popularity of the automobile. Yet, community planners and traffic experts tell us that the family jalopy is the least efficient of all mass conveyance methods.

Its a perplexing problem, and it may well be that city commuters will

again turn to electricity for the answer as they did in the 1880's. Subways, improved trolley buses and monorails are some of the silent and fume-free solutions being introduced on the home front and in various parts of the world.

And from England comes word of a revolutionary electric motor, without moving parts, which could herald a new era in swift and efficient "electrical" transportation. Known as the linear induction motor, it is being developed for the British Transport Commission, and a small rail trolley, fitted with the motor, has reached 30 mph in 65 feet. The motor becomes more efficient at high speeds, and really comes into its own at 120 mph or more.



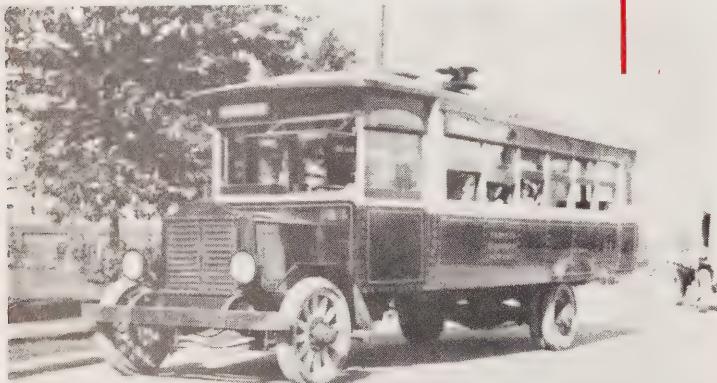
**It's hard to tell if they're legitimate passengers or just hitching a ride.**

**This aspect of rush hour was a common sight in Toronto in 1918. Location is Broadview Avenue and Gerrard Street.**

**(PHOTOS COURTESY TORONTO TRANSIT COMMISSION)**



## ELECTRICITY ON THE JOB



*Top photo shows latest in subway cars as recently delivered to Toronto Transit Commission. Each car is driven by four, 125-h.p. motors powered by energized third rail. Trackless trolley coach of early 1920s, centre photo, bears little resemblance to modern version, above, in use in many Canadian centres.*

(PHOTOS COURTESY TORONTO TRANSIT COMMISSION)

## subways and trolley coaches

While the Toronto Transit Commission introduced trackless electric trolley coaches in 1922, only a handful were put into service and their appearance was brief. This type of vehicle made its real Canadian debut in Montreal, in 1936, and by 1947 they were in use in Winnipeg, Edmonton, Halifax, Port Arthur, Fort William, Regina, Calgary and Toronto. Trolley coaches out-numbered streetcars by 1958, in which year there were 1,221 in operation across the country.

Expensive and difficult as they are to build, subways are regarded by many as the answer to public transit in larger centres. Canada's first underground system, a 4.6-mile stretch running north and south, was completed in Toronto in 1954 at a cost of \$50 million. Another north-south line is about to be opened which will act as a feeder for a 10-mile east-west route currently under construction.

Subway proponents point out that the original 4.6 mile section surpassed the aggregate passenger carrying capacity of all the city's public transit on the surface.

And Montreal has commenced construction of a 10-mile underground route to relieve congestion and speed up passenger flow.

Like the streetcars and trolley coaches, Toronto's subway trains are heavy users of electrical energy. The latest subway cars are each driven by four, 125-horsepower motors. With eight cars to a train, 4,000 horsepower is represented in the movement of a single train.

The significance of electricity in modern transit is suggested by the fact that, with a peak load in excess of 62,000 kilowatts, supplied through 25 substations, the Toronto Transit Commission is Toronto Hydro's largest single customer.



*Beautiful but devastating—temperature and precipitation teamed up to produce this utility-man's nightmare as the year 1960 made its debut.*

by Max Lambert

## ICE is the ENEMY

Remember how the new year made its debut back in 1960? It came heralded by a dazzling combination of high winds and freezing rain which turned a large section of Southern Ontario into an icy fantasy

## **Next time a crippling ice storm strikes, Ontario Hydro will fight back with a strong**

and dealt power and telephone utilities a multi-million dollar blow, disrupting service to thousands of customers—in some instances for more than a week.

While weather patterns suggest that bad ice storms can be expected only every 10 or 15 years, they could occur tomorrow. And if they do, Ontario Hydro will have a well-organized team with a detailed plan of action ready to protect the main supply arteries—those high voltage transmission line networks which criss-cross the province.

True, the low-voltage sub-transmission and distribution lines maintained by Ontario Hydro in the rural areas, and by the municipal utilities in the cities and towns, were also badly hit in the last storm, but for the present, at least, it is only feasible to consider protective measures for the main highways of power, the transmission lines.

Disastrous though they were, the ice storms sparked the probe which has resulted in the present state of readiness. Just a few days after the icy onslaught, and following a pre-arranged schedule, 1,300 amperes of electric current—twice the average normal load—were poured into the 230 KV circuits between Barrie and Kitchener. The heat imposed by the high current worked like magic and an estimated 600 tons of ice were melted off the lines in 45 minutes. But it took two days to prepare and stage the test.

Simple in theory, it is something else again in practice. Circuits carrying the higher current need to be isolated from the rest of the power grid for the duration of the de-icing procedure. Alternate circuits and additional power must therefore be available to avoid service interruption.

After these early tests it soon be-

came apparent that a satisfactory solution could only be reached through continuing study, and a co-ordinating and advisory committee was established, charged with the following:

- Preparation of a list of circuits with priorities established according

to their importance in the system, location with respect to ice-prone areas, and other data.

- Establishment of melting current tables for various conductor sizes taking ice thickness, temperature, winds and melting time into consideration.



# Under-offensive to protect its vital high voltage transmission line network.

- Selection of an ice detector system.
- Investigation of the feasibility of insulating skywires so that current might be used for ice melting.
- Predetermine circuitry needed for re-routing power during ice-melting operations.

Most of the damage caused to the highly important 115-230 KV transmission lines, carried on steel towers, is caused by the wind. Ice build-up gives an enlarged surface to work on, and the conductors tend to whip up and down, or "gallop". Tower and line spacing design allows for some degree of movement, but galloping can become severe enough to place intolerable strains upon tower arms. These may sag or collapse, taking conductors with them.

Or damage can result when high voltage conductors come into near contact and flash over.

And the "skywires", which shield the high voltage lines from lightning, are even more vulnerable to ice build-up since they carry no current whatsoever and are strung without insulators. Ice can bring them down over the conductors, causing short circuits and outages.

Exploring skywire protection is one of the advisory committee's primary responsibilities, and a test insulation of skywires on a 50-mile section of 230 KV line between Orangeville and Hanover is among its projects. About 500 specially designed insulators will be installed this year in time for the following winter. They will enable the skywires to operate at voltages up to 15 KV, and sufficient current will be carried to keep the lines warm and free of ice. Electrification will in no way negate lightning protection.

Ice detection is another vital consideration, since preventive measures

must be undertaken quickly for maximum security. Three systems are under review.

Considered most promising at the moment is a receiver developed by the Research Division which monitors signals on the voice-duplex channels operated between transformer stations on Ontario Hydro's transmission line systems. A drop in signal strength indicates that ice is forming on the line.

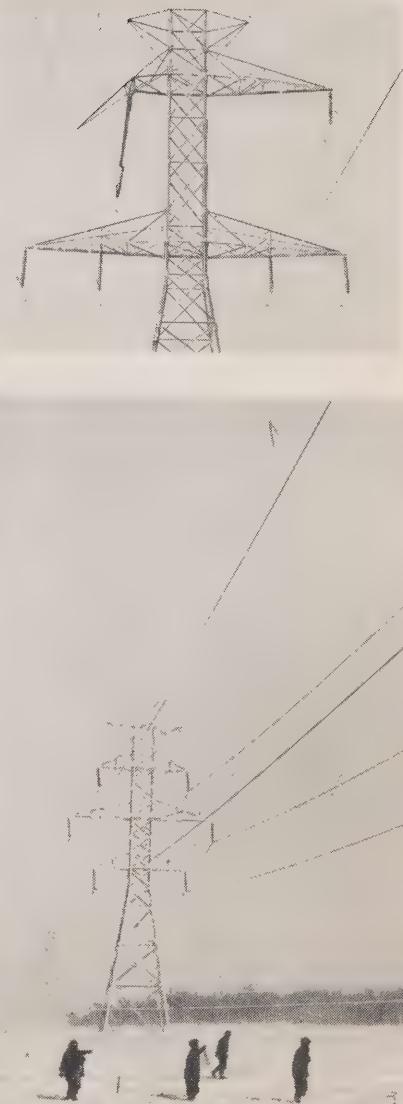
A test installation last year confirmed the effectiveness of the device. As ice began to form, the signal dropped and it began to recover strength shortly after extra current was applied to the circuits. Recovery was quite distinct, and even the time when the ice had been completely melted could be determined.

Six more of these receivers will be placed in ice-prone areas next summer for further tests. Simple and economical, the technique has a major drawback—it cannot pinpoint the location of the ice.

The use of equipment working on the impulse-echo or linascopic principle is a second approach. Designed primarily for fault location, this equipment is expensive, and its value as an ice detector has yet to be determined.

Also being studied is a Russian system whereby ice build-up is recorded by equipment which actually measures line weight. The need for separate communications to transmit ice build-up information would seem to be a disadvantage here.

But the technical approach is just one side of the fight against ice. Planning and preparedness is the other, and the next time heavy or prolonged freezing rain strikes at the transmission lines, Ontario Hydro will swing quickly into a pre-determined pattern of action. ■



Hydro technician, opposite page, illustrates ice build-up on sagging conductor with cigarette package. Top photo shows tower arm collapse caused by ice. In photo, above, ice is removed by "see-saw" action of chain on skywires. Effective but slow, this method would damage aluminum conductors.

*"In its simplest terms, the basic problem in Canada, as I see it, is that we have been exporting too little, importing too much, and increasing our external obligations at a faster rate than we have been able to earn the foreign exchange required to pay interest and dividends upon them."*

## TOWARD SOLVING

George E. Gathercole, First Vice-Chairman of Ontario Hydro, commenting on the force of economic circumstances in Canada in a recent speech to the Metropolitan Toronto Board of Trade Club, wondered how Canada should solve its balance of payments problem and, at the same time, achieve a high rate of economic growth and a low rate of unemployment. He went on to say, in part:

**T**here is increasing evidence, as has been illustrated in Ontario's 'More Opportunity' exhibits and Trade Crusade, that we have been buying from abroad many things that we can duplicate in terms of both price and quality at home. Our buying habits are often determined by whim or our desire to possess something obtained abroad irrespective of quality or price.

"This is no longer possible if we are to provide a solution for our balance of payments difficulties and maintain a high rate of economic growth. The tendency to buy abroad is not confined alone to manufactured products. It may be thought that with our fine farm lands we would be self-sufficient at least in the processed and frozen fruits and vegetables which are indigenous to our country. But the fact remains that the value of imports of such

products has been rising at a much faster rate than Canada's production and the farmer's cash income.

"One can understand the reaction to import replacement by countries with which Canada has a favorable trade balance. But all our trading partners, and particularly the United States, with which we have a huge merchandise deficit, should recognize that if we do not keep our economic house in order and maintain our financial ability to service our growing foreign obligations and pay for the great variety of goods and services we import, Canada will be obliged to resort to more restrictive tariffs and controls than have been implemented under the program to date.

**T**he coming months will reveal the shape of our trading relations with our two traditional trading partners, the United Kingdom and the United States. Britain's unsettled position with regard to the Common Market, together with the changes that will arise from the implementation of the United States Trade Expansion Act, are likely to confront Canada with some of the most difficult and challenging decisions in its history. Whatever precise shape these developments take, we may be sure that there will be dislocations and maladjustments as well as growth and

expansion.

"How are we going to meet this situation? We have a balance of payment problem, our net external debt has been rising, and foreign capital investment will continue only as long as there are reasonable prospects for a satisfactory return. How shall we face up to the changes in Europe and those under the Trade Expansion Act?

**I**t is said that we cannot expect 'a free ride', that we must make some concessions in order to obtain concessions. If we have to buy our way into the American market, what concessions could we make that would be meaningful? We already buy from the United States \$700 million more merchandise a year than we sell to them, and we have also been running a deficit on tourist account with them of close to \$100 million. If we are to attain a position that would enable them to harvest the fruits of their investment in Canada, we must achieve a substantial surplus on our trading and tourist accounts with them.

"There are many products that we can make for the whole American market if we had more favorable access to it. We have the resources, the machines, the efficiency, and our industrial wages are at least 10 per

# CANADA'S ECONOMIC CRISIS

by George E. Gathercole

cent below those in the U.S. All we lack are the economies of producing and selling in a mass market.

"In all these matters, generalizations of how we should meet the situation are extremely dangerous. It is necessary to get down to specifics, industry by industry, product by product. Not only industries but whole communities will be affected. Anyone who thinks, as some do, that the solution is a simple one of sweeping away tariffs, should pause to consider the effect upon our manufacturing industries producing for the home market. . . .

"In gearing ourselves for the years ahead, we should concentrate on those things that we can do well. Our export policy should be beamed to sell products wherever they can be sold. We should recognize, however, that virtually all non-United States countries have become increasingly sensitive on the matter of importing from Canada more than they export to us.

**W**ith the United States our trade balance is just the reverse. Our efforts to expand exports to the U.S. will inevitably encounter opposition. We may be sure President Kennedy and his administration are not indifferent to Canada's economic interests, but as realists we should understand

that they will be more prone to respond sympathetically to the plight of their own industry that is exposed to competition from Canada than they will be to that of Canadians. Thus the problem of achieving a surplus in our merchandise trade with the United States must be tackled with care and across a broad front.

**T**he present imbalance cannot be overcome by government alone. It cannot be overcome by speeches and exhortations. The most effective contribution to this end will emerge from the actions of those who are engaged in the daily business of producing, exporting, and importing. In recent years we have seen the rise of a number of committees and organizations designed to increase U.S.-Canada discussions of common problems. The Board of Trade and the Chamber of Commerce have done valuable work with this objective in mind. Much more remains to be done. . . .

"In reviewing prospects for exports to the south, we should not overlook the possibility of exports of electric power for which there is a rising demand. Down through the years we have hoarded our water power resources in order to provide a guarantee for Canada's continuing expansion. It was thought to be 'better safe than sorry'. But with reasonable

safeguards for protecting Canadian users and consumers in terms of both supply and price, the case for hoarding of our electric power resources is no longer valid.

"Canada has very substantial undeveloped hydraulic sites on the great rivers of the Rocky Mountain Trench, on the Nelson in Manitoba, and on some of the large rivers of Quebec such as the Manicouagan and the Harricanaw. If we could push ahead with these developments by exporting power to the United States on equitable terms while safeguarding our legitimate long-term interests, we could not only provide some savings to the United States, we could enhance our earnings of U.S. dollars and also increase employment in Canada.

"In conclusion, may I take just a few moments to summarize.

**F**irst, I believe that we have been importing too much, exporting too little, failing to balance our external accounts in tourist trade, and incurring foreign obligations too fast.

"As a relatively young country with undeveloped resources and rich potential, Canada has required, and will continue to require, an inflow of capital. The skills and technology that are often associated with foreign investment will also play an impor-

*Speaking at a recent luncheon of the Metropolitan Toronto Board of Trade Club, George E. Gathercole, First Vice-Chairman of Ontario Hydro, outlined some of the ills besetting the Canadian economy and suggested solutions. Mr. Gathercole was Deputy Minister of Economics and Development in the Ontario Government prior to his appointment to Ontario Hydro and his council has been sought on a wide variety of matters including insurance, portable pensions, budgets and investment.*



tant part in maintaining the rate of our development. It should be our objective, however, to move gradually but surely in the direction in which we would be making much smaller demands on the world's supply of investment capital. We can achieve this goal by increasing our own savings for investment, and by expanding our foreign aid and loans abroad from which trade and other benefits will flow.

**S**econd, we should establish targets and goals for say the next five years. One such goal might well be to expand exports in relation to imports by \$1 billion over the next five to ten years. In drawing up a blueprint, the recently-created National Economic Development Board and the Ontario Economic Council would be expected to play a significant part. The degree of success obtained will depend upon the measure of participation and co-operation rendered by business and labor. . . .

"Third, we cannot government-spend our way out of our troubles. Public spending can be a useful tool

to alleviate unemployment and promote development and economic well-being. There is, however, always a need for balance. That is especially true today when we are seeking to accelerate production and create more employment across the broad structure of industry. If we push up industrial costs by taxation we make our competitive position more difficult. The upshot is that fresh injections of public spending leak away in the purchase of foreign products and travel abroad, contributing little to Canadian employment while aggravating the deficit in our external accounts.

**T**o me the outcome admits of no doubt. We have every reason to be confident. Canadians will respond to any challenge if they understand the situation and are presented with a plan and an explanation of what is required. We have the natural resources, the modern plant, the technical skills and standards of education that go to make a success. In a world that has afforded relatively little evidence of security for foreign

investment, Canada has earned a reputation for the stability of its government, its rich potential, and the integrity with which it has honored its foreign obligations.

**W**e share many advantages which flow from our position as an integral part of the North American continent. Some Canadians have already advocated that we enter into a kind of economic or political union with the United States. In the years ahead the allures of a larger economic community may prove irresistible. The Canadians of that day, based on their experience, will have an opportunity to decide. But this much is certain. If and when that day comes, our position will be immensely enhanced if we are able to negotiate from strength and not from weakness. It is, therefore, imperative that we accommodate ourselves to Canada's needs, so future generations of Canadians will be able to say without qualification that their forebears were prepared to devote the effort and make the sacrifices required to be Canadian, and really succeeded." ■

Municipal Hydro commissioners from as far afield as Simcoe, Brantford and Burlington were on hand to discuss mutual problems at the annual meeting of District 5, Ontario Municipal Electric Association, held recently at Niagara Falls.

Under the chairmanship of C. N. Swayze, Welland, retiring district president, delegates deliberated such diverse problems as governmental relationships, joint use of utility poles, the Industrial Standards Act and low tension transmission costs.

In an open forum discussion chaired by Richard Jones, Niagara Falls, commissioners agreed that load building must be planned and sustained to be effective. Service was cited as the cornerstone to any effective load-building campaign with advertising and public relations necessary to create a favorable climate for acceptance. It was agreed, too, that utilities should budget a percentage of their gross sales to cover load building and, in co-operation with adjoining municipalities, plan their campaign to achieve maximum effect. Commissioners charged themselves with the responsibility of ensuring the success of such programs.

Among the resolutions submitted at the meeting were two which were referred for further study. One, concerning the pooling of low tension transmission costs, goes to the Power Costing Committee of the parent Association for consideration. The other asks the Government of Ontario to set up an appeal procedure which might be invoked by the municipal utilities against Ontario Hydro rulings. It was referred to the incoming executive.

The meeting adopted a resolution requesting that Ontario Hydro issue truck and counter cards bearing a distinctive symbol which could be used throughout the province by the municipal utilities and Ontario Hydro. "Partners In Progress" was suggested as a suitable slogan.

Two motions having to do with joint use of pole agreements, and with procedures for submitting resolutions at the annual convention were defeated. ■

## HYDRO COMMISSIONERS DISCUSS MUTUAL PROBLEMS AT NIAGARA FALLS MEETING



*Between sessions at the District 5 O.M.E.A. annual meeting, Niagara Falls, members of St. Catharines Public Utilities Commission, Frank Jannaway, Arthur Bennett and Stan Morrison, from left, introduce themselves to George Gathercole, First Vice-Chairman of Ontario Hydro.*



*New executive of District 5 O.M.E.A. includes, left to right: C. N. Swayze, Welland, past president; Richard Jones, Niagara Falls, 1st vice-president; Norman Craig, Burlington, president; Dr. Douglas Fleming, Dundas, 2nd vice-president; W. F. Rannie, Beamsville, director. Directors Jack Wratten, G. Bertling and James Camelford are missing.*

Question: *what do  
answer:*



*a drive-in theatre*

*a funeral home*

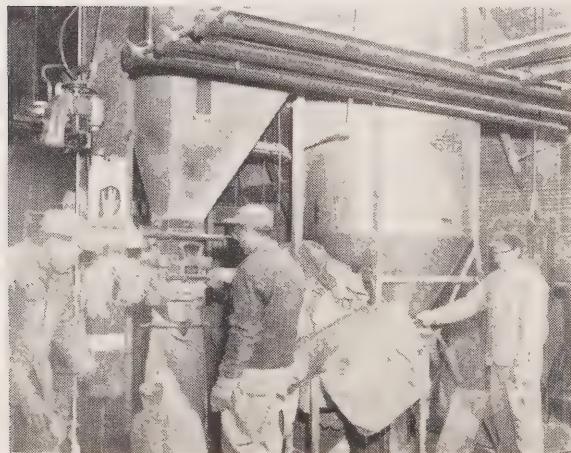
## **ELECTRIC HEATING**

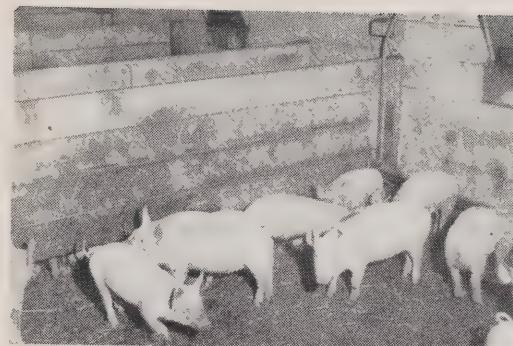
**DRIVE-IN THEATRE** is new "all-electric" Odeon Bay Ridges near Toronto where 750-watt electric heaters are placed in autos with the sound amplifier during winter. Heating and cooking are done electrically in theatre's concession building. **MODERN FUNERAL HOME** at Mattawa, designed by owner Mel Edwards, features inconspicuous and efficient electric heating throughout. **PALM TREE**, growing outside new Toronto nightclub, owes its precarious existence amid the snows to electric heating. Buried cables keep soil warm while infrared heating has been specified to protect foliage. **HOG PEN** is just one of many where electric comfort heating provided by cables in farrowing floors is increasing number of hogs per litter reaching market.

At least one example of each of these unusual applications of electric heating—and of dozens of others as well—can be found in Ontario.

In fact, versatility is one of electric heating's most attractive features. In homes, as well as in motels and resorts, each room can be thermostatically controlled to the precise temperature desired. Churches and schools benefit from the short warm-up period needed for electric heating. Infra-red heaters keep hockey and curling fans comfortable, without affecting the ice.

Electric heat pumps, which provide heating in winter and cooling in summer from the same unit, are grow-





## *palm tree and a hog pen have in common?*

ing in popularity for commercial and industrial applications. In many cases, waste heat from industrial processes and high-level lighting can be used to help heat the building and keep costs low.

And innumerable buildings and areas which defy conventional methods of heating can be successfully heated with electricity.

Commerce and industry, in particular, are finding they can benefit from the versatility of electric heating, at rates which may be as low as .3 cents net a kilowatt-hour.

The secret is off-peak power.

Low rates apply to power that the commercial or industrial customer is able to utilize off his own peak. If his normal energy consumption for other purposes is sufficiently high, his off-peak heating energy will be at the low end rate.

An excellent example is the transmitter building for CFCL radio in Timmins. The transmitter heats the building when the station is on the air, but from sign-off time at night to sign-on time in the morning, the electric heating takes over.

The 10-kilowatt installation has eliminated many technical problems caused by the effect of cold temperatures on some of the components.

And this efficient and practical application of electric heating costs CFCL radio only .45 cents net a kilowatt-hour. Operation of the electric heating system has no effect on the station's peak.

Low energy rates, made even more attractive when off-peak power can be utilized, is just another phase of the unlimited versatility for which electric heating is rapidly gaining recognition. ■

*Versatility of electric heating is demonstrated by Norfolk Co-Op Mill, Waterford, opposite page, where explosion proof heat, normally requiring outside furnace room and circulating system, is provided by tube-type radiant units. Electric elements are installed in pipes which have low surface temperature at all times. Rising some 500 feet above the gorge, Seagram Tower, left, provides magnificent view of Niagara Falls. Structure is electrically heated and features two all-electric restaurants in superstructure. Toronto Telegram building, lower photo, scheduled for occupancy next winter, will be weather-conditioned by heat pump system utilizing interior sources of heat such as presses.*



# WHO EVER HEARD OF J. J. WRIGHT?

by Bob Morrow

*With National Electric Week falling in February,  
this seems an appropriate time to recall the deeds of a Canadian who  
was installing underground wiring  
when Edison was patenting his first incandescent light.*



*J. J. Wright*

"If we are to adopt nothing but American ideas or Chinese ideas or antediluvian ideas, we may as well cease to exist and let other people do our thinking for us."

This plea for Canadians to put on their thinking caps sounds as if it had been made in 1963. In fact, it was made in October, 1893, by the first president and one of the founders of the Canadian Electrical Association, a fledgling group formed just two years earlier.

The speaker was J. J. Wright, a familiar figure in electrical circles in the 90's. A stocky man with a pleasantly square face, flowing moustache, and keen, inquisitive eyes, Wright was widely known as "J.J." He was already recognized as an electrical pioneer who stood head and shoulders above others in Canada because of his contributions to electricity. These included:

- Building and installing the first Canadian-made generator in 1881.
- Building the first successful electric motor in Canada.
- Helping to develop and operate the first successful electric railway on the continent.

Wright's plea for Canadian initiative in 1893 indicates the leadership he gave to the C.E.A. in its early years. He was urging the Association to adopt a Canadian standard of

illuminating power for arc lamps instead of an imported one.

Many other examples of Wright's leadership can be found in the yellowing pages of the Canadian Electrical News, a pioneer electrical journal. Several interviews with his son, Walter F. Wright, 82, of Toronto, have also shed more light on a man whose electrical pioneering days predate Edison's first incandescent lamp patent in 1879.

J. J. Wright could hardly be called an inventor, but he was a successful innovator who followed new, unexplored paths to find practical solutions to problems that stumped other men.

The son of a Methodist minister, John Joseph Wright was born in England in 1850. He came to Can-

ada in 1870 with three brothers and a sister.

Nothing in his background gave any indication of his future. He had received a classical education in England, and, as a young immigrant, he was hired by the *Toronto Globe* as a proof reader. On Sundays he was organist in a Methodist church.

But Wright soon indicated his lively interest in steam-powered machinery—and boating. He and his brothers manhandled an old steam engine down to the waterfront, bolted it onto a boat, and thus became proud owners of the first steam yacht on Toronto Bay.

The Wright brothers drifted to Philadelphia in 1875, and during his American sojourn J. J. Wright met Elihu Thomson and Edmund Houston at the Philadelphia Centennial Exposition, in 1876.

Wright teamed up with them and quickly became a kingpin in their organization. He joined in their experiments with electrical apparatus and played a leading role in developing what was to become the famous Thomson-Houston generator.

Wright is credited with installing the first electric arc street lamp on the continent at 21st and Washington Avenue in Philadelphia in 1879. He also installed underground wiring for electric lighting on Market Street

and between the city hall and 4th Street.

When Elihu Thomson found financial backing and set up a factory in New Britain, Connecticut, Wright returned to Toronto to set up his own business. He built his own generator and made carbons for his arc lights in the basement of a box factory on King Street. He strung wires over downtown buildings to serve 12 to 15 customers, including Robert Simpson's store, Tasker's, a newspaper office and McConkey's restaurant.

His distribution system complete, Wright installed the generator at what is now the site of the Royal Bank Building at King and Yonge Streets, and the J. J. Wright Electric Light Company opened for business.

Wright's first motor was used by a downtown grocer to grind coffee, but something went wrong. The infernal machine speeded up and belched smoke, but it had no cut-off switch. The grocer kept grinding and re-grinding his coffee until someone came along and short-circuited the motor.

By 1883 several light companies were competing for business in Toronto beside "J.J.", who now had two dynamos. Charles J. Vandepoele, of Chicago, was operating the Canada Electric Light Co., and the Hockhausen Co., of Brooklyn, was breaking in.

That year saw the birth of an enterprise that soon became master of them all. The Toronto Electric Light Company was formed by a group of prominent citizens, including A. H. Campbell, R. S. Hamburger, Samuel Trees and young H. M. Pellatt, a champion sprinter.

The T.E.L. offered Wright a job, and either \$4,000 in cash or \$8,000 in shares in the new company. "J.J." played safe and took the cash. He was appointed superintendent and later manager, a job he held for 25 years. He continued as vice-president until his death in 1922.

The Toronto Electric Light Company used steam power plants up to 1906, when they were superseded by power generated at Niagara Falls and transmitted by high voltage lines to Toronto. The company continued to operate in competition with the Toronto Hydro-Electric System until 1922—the year J. J. Wright died—



*Complete with flags, bells and flying sparks, America's first successful electric railway was a big attraction at Toronto's C.N.E. in the 1880s. Man in the bowler hat beside the track, J. J. Wright, was instrumental in developing and operating the line at a profit.*

when Toronto Hydro took over the system.

By 1922 life in an electrical utility was much more complex than it was in the 1880's, when electricity was little more than a novelty. Walter Wright recalls that the lights were so poor in the T.E.L.'s own office that customers paid their bills by candle-light. And a horse could haul enough coal on Saturday to keep the steam plant operating over the weekend.

Another novelty in 1883 was the electric railway. In 1881 an electric railway had been operated at Lichtenfelde, Germany, and in 1883 at the Giant's Causeway in Ireland. Edison had been experimenting with an electric railway at Menlo Park, New Jersey, but it had never been put to commercial use.

The two men responsible for the first successful electric railway on this continent were J. J. Wright and his former rival, Vandepoele.

Started in 1883, it ran less than a mile from Strachan Avenue into the C.N.E. grounds. The first year the railway motor wouldn't "mote" very far, but it was improved in 1884. By 1885 it was a great success at a nickel a ride.

Vandepoele severed his connection with the railway in 1885, and Wright was named to operate it. "J.J." made it a financial success every year until

1891, when the pioneer trolley made its last run. The next year electric street cars began operating in Toronto.

J. J. Wright's services were much in demand during these years because of his know-how. Many Ontario communities which were installing small arc or incandescent lighting systems sought his advice.

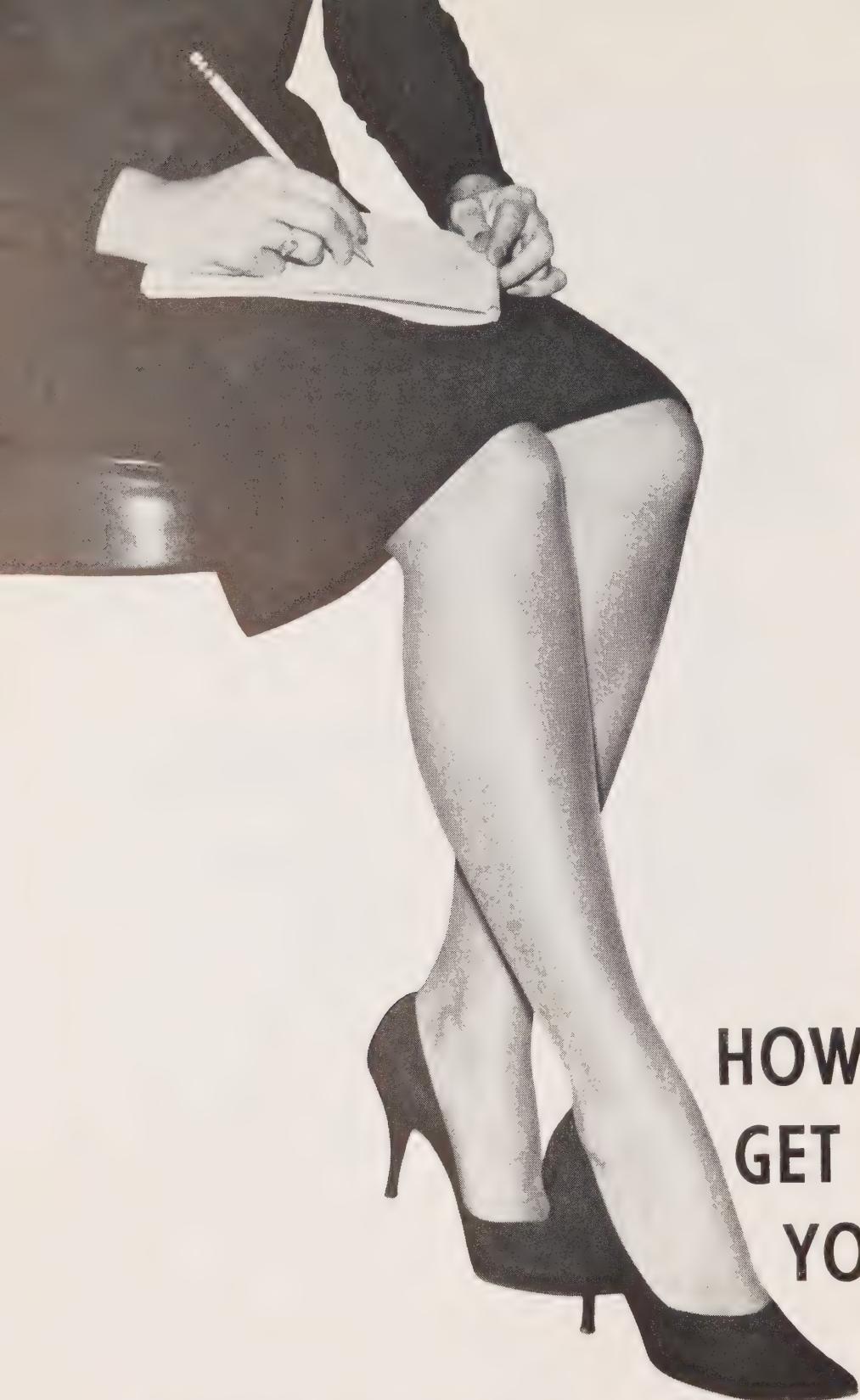
Walter Wright recalls that Fred Thomson, brother of Elihu Thomson, once came to his father. Fred wanted his father's opinion about the feasibility of transmitting electricity 11 miles from a hydro-electric plant at Montmorency Falls to Quebec City.

"J.J." suggested that Thomson pile up 11 miles of wire in a warehouse at Montmorency Falls and hook it up. Thomson made the test—and it worked! So did the "long-distance" lighting system for Quebec City.

"J.J." probably could have made a fortune as a consultant in his lifetime. But Walter Wright says that whenever people asked his father for professional advice, he gave it without charge. "My father was never interested in money," he said.

Asked if his father had foreseen the future of the electrical industry, Walter Wright, who has spent most of his life in the electrical supply field, had a quick rejoinder:

"Who did?"



# HOW TO GET ALONG WITH YOUR GIRL FRIDAY

## -FROM MONDAY

by Bob Morrow

A few bosses elope with their secretaries. Others can't summon up enough courage to fire them. But the average boss wants to know how to get along with the Girl Friday who shares his working day at the office.

And with legitimate reason. Experts say an ideal secretary should be able to take about 25 per cent of the workload from

## Secretaries don't come with instruction manuals

but a little attention to maintenance will protect your investment.

a boss' shoulders: she's a clerical-stenographic-administrative assistant and an alter-ego into the bargain.

As such, it's unlikely that even the less-than-ideal secretary will ever be replaced by a docile but witless computer, unless the boss is heartless or mad (and we mean mad). But a man who's unable to get along with secretary after secretary may have to resort to an electronic data processing unit unless he takes steps to improve his "boss-ability".

Here's a guide to some of the pet peeves of secretaries and what they expect of their bosses. (It will also help any boss get rid of his secretary without tears and hand-wringing. Disregard the suggestions and she'll quit.)

A secretary wants to know precisely what you expect of her, what the job does and does not include, and how you want things done. Her biggest gripe: being used as a nursemaid, shopper, personal bookkeeper, errand-girl, maid and social secretary IF you didn't make these duties clear when you hired her.

She deserves some consideration as a person—she has blood in her veins, not electricity. She doesn't like being asked to work overtime without advance notice, nor being used as an excuse or a scapegoat. If you are going to bawl her out, do it in private.

She expects you to have some understanding of her work. These are some of the best ways yet discovered to alienate your secretary:

- Mark every letter "rush". Insist something must go out tonight (especially something which you've stalled on all week), then leave before it's finished and sign it in the morning.
- Make minor corrections with ink on her neat letters.
- Keep her at your elbow while making phone calls. Hum and haw when she's prepared for dictation.
- Interrupt her "rush" work with rifles.
- Keep papers in every nook and cranny instead of letting her file them, then holler if she can't find

them or follow-through on them.

Show a little confidence in her ability and judgment. Don't make a secret of your whereabouts. Secretaries don't like fibbing to cover up for you.

Why do secretaries quit? The magazine *Business Management* found this point stood out in interviews with a number of top secretaries:

"Good secretaries want to show their stuff. When a good secretary quits, it is seldom because she is overworked. Commonly, it is because she hasn't had a chance to work hard enough—to develop her abilities . . .

"The perfect boss is not necessarily the nicest man in the office. He is the man who knows how to challenge, guide and direct his secretary."

If you use your secretary properly, you can benefit in two ways:

(1) You keep her happy and thus keep her on the job.

(2) You lighten your own detail tasks and free yourself for the important work.

A final point: avoid personal involvement. Your wife will see red if you brag about your secretary. If you complain to your secretary about your wife, she may think she can take up housekeeping any day and let you do all the office work.

Be discreet, stay impersonal and you will avoid stepping into hot water.

Here's a checklist for bosses who want to avoid stirring up the wrath of their secretaries:

- Don't speak as though you had a mouthful of marbles.
- Plan your work to avoid unnecessary overtime.
- Don't waste your secretary's time with idle chit-chat.
- Write legibly.
- Show appreciation if she exerts extra effort to do a good job.
- Don't expect her to fib too much for you.
- Cultivate a sense of humor.
- Keep her posted on your whereabouts.
- Don't keep breathing over her shoulder. Give her a chance to handle a job without interference.

# STAMFORD BECOMES NIAGARA FALLS

At one second after midnight on the first day of January, 1963, the city of Niagara Falls and the Township of Stamford became one.

For Stamford Hydro, the nuptials ended 46 years of independent progress during which the utility grew from a tiny system serving less than 700 customers, with a load in the neighborhood of 1,900 kilowatts, to a dynamic organization with 9,500 customers and a load in excess of 19,000 kilowatts. At the time of annexation, the two utilities were about equal in stature so that, overnight, Niagara Falls Hydro more than doubled its load and customers while acquiring more than 10 times its former territory.

But if Stamford came to the wedding well endowed electrically, she also brought a glittering prize in the form of a horseshoe—the great cataract itself. The falls lie within the limits of the new city. More important, the township opens up new vistas of expansion and progress for the city which it had previously hemmed in on three sides. On the fourth is the river.

This is not to suggest that the partners to the marriage made uneven contributions. In exchange for surrendering its name, Stamford Township acquires what is perhaps the world's best known address. And its Hydro system joins hands with a utility which has long been to the fore in the science of electrical distribution.

Under the management of J. A. Williamson, a past president of the Association of Municipal Electrical Utilities and one of its most active members, Niagara Falls Hydro has been equal to the challenge imposed by the municipality it serves. As one of the world's great tourist centres, Niagara Falls is constantly under the

critical eye of a host of visitors, and the Hydro system, like the city itself, takes pride in its efficiency and appearance.

A pioneer among Canadian utilities in the field of low-cost residential underground distribution, Niagara Falls Hydro has also been among the leaders in burying primary circuits, with over 50 per cent of these feeder lines now underground in the "old" city. For several years, all new residential services have been installed with provision for quick conversion to underground.

Street lighting is another area in which Niagara Falls Hydro has shown leadership. It was the first utility in Canada to order fluorescent fixtures in quantity, and all of the city's main traffic arteries are now lighted by this means.

For its part, Stamford claims to be among the best lighted townships in the province. "And Stamford is proud that it was able to double its customers and increase its load two-and-a-half times in the last ten years while keeping costs and rates to a minimum," says Harold Brownhill, manager of Stamford P.U.C. since 1951. He becomes assistant manager and chief engineer under the new regime.

Commenting on the effects of amalgamation, Mr. Williamson, general manager and secretary, envisions that "positive and obvious economies will be effected over a period of time." He feels that these will eventually be reflected in rates.

In the latter regard, virtually the same rates which prevailed in Niagara Falls have been extended to the entire enlarged municipality. This means that former township residential customers, particularly those who use electricity extensively, have received a noticeable reduction in rates.

While history will record the union as the annexation of Stamford Township by the City of Niagara Falls, the term hardly suggests the harmony and goodwill which prevailed on both sides during the negotiations preceding the event. As Mr. Williamson points out, not a single candidate for either council in the two elections held in the period when negotiations were approaching fruition ran on a platform opposed to amalgamation.

And while the proposal to unite the city and township formally dates from 1954, when a fact-finding committee of the two councils was formed, Mr. Williamson notes that close liaison had existed between the two Hydro systems for much longer. "It's been 15 years since either utility built a substation or other major addition without taking amalgamation into consideration. Its something we have lived with for a long time."

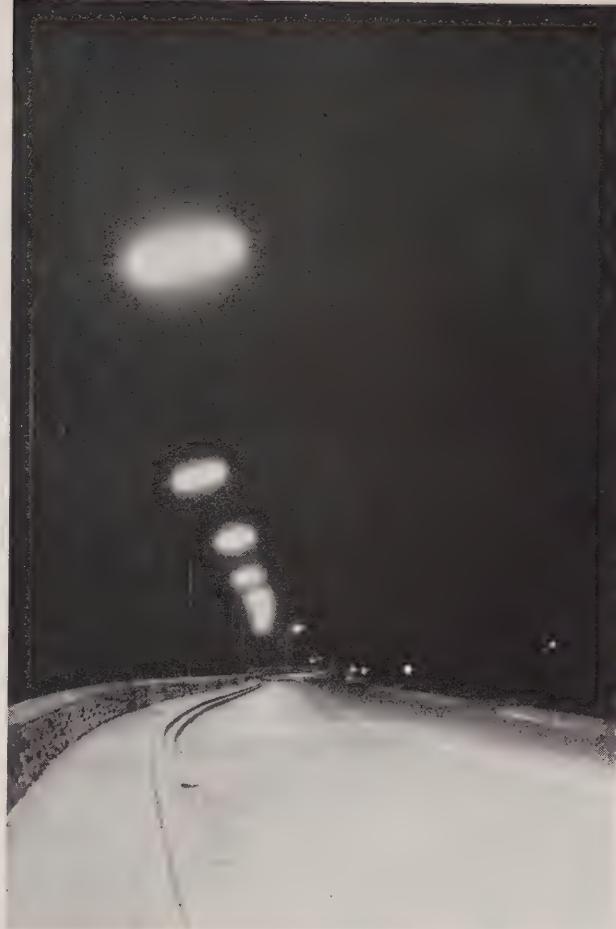
This greatly facilitated the union of the two Hydro systems, and immediate problems were ironed out by the commissions meeting in joint session six times prior to amalgamation. Two former township commissioners now join the Niagara Falls Hydro Commission.

As Mr. Williamson remarked in a year-end statement, "It is most fortunate for the new City of Niagara Falls that the voters saw fit to re-elect the members of the two previous commissions. Together with the mayor they form a strong and experienced commission able to provide vital leadership at a crucial period in our development."

Among the first business on the 1963 agenda will be consideration of a new office and service centre designed to accommodate the two staffs, now located in separate quarters with inadequate facilities.

Niagara Falls Hydro is particularly proud of its street lighting. Modern and efficient fluorescent units like these enhance city's main traffic arteries.

Niagara Falls Hydro Manager J. A. Williamson traces city's new outline with Harold Brownhill who was manager of Stamford Township Hydro before amalgamation. City acquired 10-times its former territory.



As the result of amalgamation, new faces were much in evidence as Niagara Falls Hydro Commission held its inaugural meeting for 1963. Left to right, seated, are: Norma Crane, treasurer; James Wincott, commissioner and George Burley, chairman. Standing: Tom Barnes and Richard Jones, commissioners, Harold Brownhill, assistant manager; Mayor Franklin Miller, and J. A. Williamson, manager.

Like the city itself, Niagara Falls Hydro takes pride in its appearance and efficiency. Here, chairman G. L. Burley, right, and commissioner R. J. Jones watch new radial arm bucket put through its paces.

## Mr. Hydro of Tilbury

The sunshine counties of Kent and Essex in the extreme southwestern tip of Ontario are among the richest farming areas in the world, and their corn, tomato, soy bean and tobacco crops are the pride and joy of the banana belt boosters. But it's not until you get to Tilbury, where the two counties come together some 50 miles east of Windsor, that heavily laden orange trees become commonplace.

True, these are only to be found indoors, and anyone attempting to delve further into this horticultural phenomenon will invariably end up at the plumbing and tin smith shop of W. L. (Billy) Wilson, 74, one of the town's most respected and popular business personalities and a man of many talents.

Growing oranges, lemons, grapefruit and flowers is a hobby which gained him membership in the town's horticultural society, where his leadership brought him the president's post, but Tilbury's most community-minded citizen is equally well known for his splendid record of service with the local Hydro commission.

Launched on his 39th term as a

member of the Tilbury Public Utilities Commission, of which he has been chairman twenty times, Mr. Wilson has seen the number of customers served by the utility grow from less than 200 to over 1,000 at the present time, and while average per capita consumption remains relatively low, the veteran commissioner is quick to point out that low-cost natural gas has been available in the area since before 1915, when Tilbury became a Hydro municipality. He recently witnessed the advent of the town's first electrically-heated home, and, with the new low home heating rates in effect, he has high hopes for the future.

Born at Ingersoll, Mr. Wilson came to Tilbury in 1909, and the community began to benefit from his drive and leadership from the outset. He is the oldest member of the Tilbury Parks Board, of which he was chairman for several years, and he has been a member of the fire department, president of the Tilbury Athletic Club, motion picture projectionist, a charter member of the Rotary Club, and an Oddfellow for 36 years.



*It takes a green thumb to grow oranges like these even in Southern Ontario—and horticulture is just one of veteran Hydro commissioner Billy Wilson's accomplishments.*

In addition to horticulture, Mr. Wilson finds time, after a full day at the shop, to indulge in metal working as a hobby. A former lacrosse player of note, his sporting endeavors are now limited to watching hockey, which permits him to serve his adopted community in yet another way.

"Each time we go to Chatham to see a game," he explains, "we take along a couple of youngsters." ■

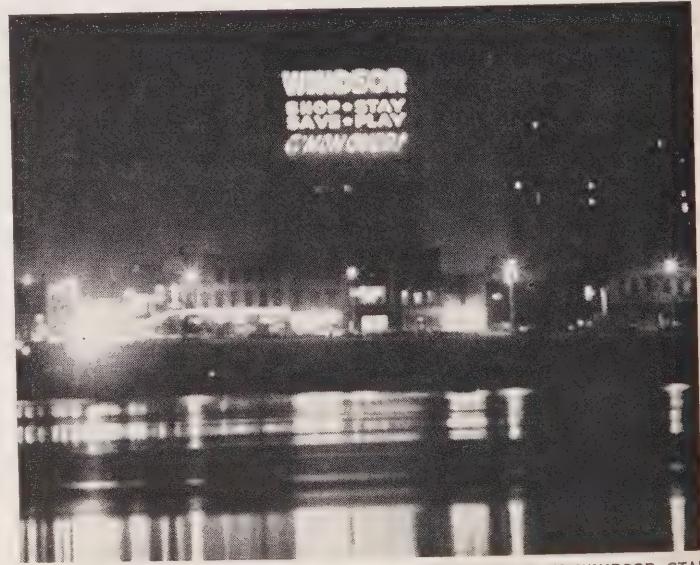
## Largest Neon Sign Beckons Detroiters

The largest neon sign of its kind in the country is being employed to lure U.S. citizens over the border to shop and play in Windsor.

Erected by the Greater Windsor Foundation at a cost of \$40,000, the sign is aimed across the river at Detroit, where its message is readable for distances up to two miles. Standing 212 feet above the ground, on the roof of the tunnel ventilation building, the sign measures 64 feet by 75 feet, and its tallest letters are 12 feet high.

The top line alternately reads "CANADA" and "WINDSOR"; the next line is "Shop and Save" and "Stay and Play"; the bottom reads: "5 MIN. AWAY" and "C'MON OVER".

Purpose of the sign is to promote Windsor's business and tourist establishments, and its completion marks the end of the first major project undertaken by the Greater Windsor Foundation. Established in 1961 by a handful of citizens concerned with the city's future, the Foundation now has more than 100 active members representing almost every segment of the community. ■



COURTESY WINDSOR STAR

*Winking a welcome across the Detroit River, this giant new neon sign beckons Americans to shop and save and play in Windsor.*



# along hydro lines

## NPD Story Depicted In 25-Minute Film

The story of Canada's first nuclear-electric power development—NPD—has been colorfully depicted in a 25-minute film sponsored by Atomic Energy of Canada Limited, Ontario Hydro and Canadian General Electric, the three agencies who co-operated in this pioneering nuclear project.

The new film presents the NPD story in a non-technical, interesting manner which should appeal to a wide audience. It deals, as well, with the advantages of the Canadian concept of nuclear power which utilizes natural uranium as a fuel and heavy water as a coolant and moderator.

## Toronto Commissioners Report System Progress

Representatives of Toronto and Leaside councils and other civic officials were guests of the Toronto Hydro-Electric Commissioners at their recent annual civic dinner. The meeting provides commissioners with an opportunity of reviewing and reporting on major items of operation of the Toronto Hydro-Electric System, while guests are invited to ask questions.

System Chairman Bert Merson assured the gathering that, although costs were mounting, no rate increases were in store for 1963, nor were they anticipated in 1964.

"As a means of meeting local losses," occasioned by industrial moves and other factors, Mr. Merson pointed out, "we have done considerable promotion, especially in regard to electric heating. We now have a number of apartment houses electrically heated as well as commercial buildings. This type of load is increasing for us and will continue to grow as people realize the benefits of electrical heat."

"We have built up a competent staff on electric heating, and their advisory services are available to architects, contractors, consultants, and anyone interested in the subject. As a civic organization we are interested in promoting the electric heating of civic and other public buildings, and we hope those responsible for such structures will avail themselves of our services."

In addition to spending \$1½ million on underground wiring, Toronto Hydro had also continued its program of replacing wooden poles with concrete, and in developing improved methods of carrying wires and transformers.

In the past ten years, Mr. Merson said, over



Enjoying a chat prior to Toronto Hydro's Civic Night dinner, this group includes, left to right: Bertram Merson, Mrs. John McMeachan, Mrs. Harry Hyde, Mr. and Mrs. Phillip Givens, controller, Mr. McMeachan, Mayor Beth Neilson of Leaside, and Mr. Hyde.

\$26,000,000 had been spent on underground installations.

Representing the town of Leaside, which is served by Toronto Hydro, Mayor Beth Neilson thanked commissioners Merson and McMeachan for the high degree of co-operation which had existed between the system and the municipality. Similar greetings were extended by Toronto Controller Phil Givens representing Mayor Donald Summerville.

## Hydro Superintendent Honored on Retirement



Almost 100 friends and associates in the electrical industry gathered at the Erie Beach Hotel in Port Dover recently to honor Aaron McKnight, on his retirement after more than 33 years of service with the Port Dover Public Utilities Commission.

The popular and affable superintendent was retiring from another phase of a career during which he has been stationery engineer, electrician, railway motorman and lineman. Mr. McKnight was the recipient of presentations made by Allan (Tooner) Howard, Thorold; and Douglas Stalker, Simcoe, on behalf of the assembly.

Among those present were Aaron's three sons, who are all in the electrical industry. They are Bruce and John of Kitchener, and Ross of London.

Mr. McKnight is shown in the photograph, centre, flanked by the co-chairmen in charge of arrangements, Sam Murchie, Brantford Township, left; and Norman Grandfield, Brantford.

## MUNICIPAL BRIEFS

St. Thomas P.U.C. has taken the lead in establishing a local chapter of the Electric Service League. At a recent meeting sponsored by the utility, William Underhill, P.U.C. manager, was named chairman of a 10-man interim committee to launch the new organization and to arrange for the election of an executive body.

With its aggressive water heater sales program in high gear, Ajax Hydro has been able to announce a further reduction in rental rates—from \$1.50 per month to \$1.25 per month—for the 40-gallon, 1,000/3,000-watt unit.

As a convenience to customers, the Scarborough and North York Hydro systems have recently commenced enclosing self-addressed return envelopes with their bills.

**Low Load Factor** occasioned by sharp peak demand occurring between 11:30 a.m. and noon on Mondays and Thursdays is causing Orono Hydro some concern. In a year-end report, utility manager Ernest Dent said the peak was caused by use of water heaters and dryers during the noon meal period. He felt the problem was common to other small communities.

Ontario's first all-electric community, Albion Grove, is underway in Etobicoke Township, and six model homes have been completed. They are the forerunners of 188 dwellings which will be erected as designs are selected by prospective home owners. All services will be underground, and a master TV antenna system will eliminate unsightly roof masts.

In the interest of prompt service for customers with hot water or electrical problems, Niagara Falls Hydro is increasing its off-hour duty staff. Emergency crews will be on duty until 1 a.m. during the week and from 8 a.m. to 4:30 p.m. on weekends and holidays. This is in addition to operators available by telephone 24 hours a day year 'round.

Owen Sound Hydro's finance plan, which covered wiring, electric heating, ranges and clothes dryers, has been extended to include washing machines and refrigerators. Maximum purchase under the plan has been raised from \$500 to \$800. Purchases totaling \$19,000 have been made under the plan without a bad debt.

Fort William Hydro will complete a city-wide street lighting improvement program this year which it launched in 1948. Upon completion, a total of 3,091 modern units will have been installed.

A \$100,000 substation has been completed by Sarnia Hydro which will include in its service area the Sarnia General Hospital, where a \$3,000,000 expansion program is underway.

**Can one man serve on two utility commissions at the same time?** This is the conundrum faced by Murray Whelpton, who was elected to the Windsor

Utilities Commission in December and has a year of his term remaining as a commissioner with the Sandwich East P.U.C. Mr. Whelpton sees no reason why he should not serve on both commissions so long as no conflict of interest arises.

**Personalities** in the news include *Robert Rudy* and *Ernest Piehl* of Tavistock P.U.C., who will be among those honored by the O.M.E.A. for 15 years of service. Among veteran commission chairmen re-elected this year are *Alex Boman*, Blenheim, 14th term; and *Hercule Racine*, Casselman, 10th term. *Don Simpson* succeeds *Aaron McNight* as superintendent of Port Dover P.U.C. Mr. Simpson is a former commissioner and a plumbing, heating and electrical contractor. *D. J. McLeod*, chairman of the Embro Hydro-Electric Commission, died recently. ■

### Clarence H. Carslake Dies at Scarborough



Clarence H. Carslake

Dies at Scarborough

Clarence Hale (Clare) Carslake, named chairman of the Scarborough Public Utilities Commission for 1963, died recently in Scarborough General Hospital. He was 66 years of age.

Mr. Carslake was appointed to Scarborough P.U.C. in October, 1958, to complete the term of a deceased member. He was an elected member of the commission from 1959, and had assumed the chairmanship shortly before his death.

Born in Martha's Vineyard, Mass., Mr. Carslake graduated in chemical engineering from the University of Toronto in 1922. For more than 30 years he was head of the science department at Danforth Technical School and was vice-principal of the school at the time of his retirement in 1958.

He took an active interest in the development of advertising and sales promotion in District 4, Ontario Municipal Electric Association, and in November, 1962, he was elected a district director.

A past president of the York Scarborough Progressive Conservative Association, Mr. Carslake was a member of Cliffcrest United Church and of the Scarborough Horticultural Society.

Among the survivors are his wife, the former Evelyn Makings; two daughters and two sons. ■

### Hydro Floats Bond Issue For Capital Expansion

A new \$60-million bond issue to refund maturing indebtedness and finance the Commission's current capital expansion program throughout the province was issued recently. It was fully subscribed.

The issue consisted of open-end, eight-year, 5 per cent bonds and 20-year, 5 1/4 per cent bonds. The eight-year bonds were offered to the public at 100 to yield 5.00 per cent and the 20-year bonds at 99 3/8 to yield 5.30 per cent.

They were issued in denominations of \$500, \$1,000 and \$25,000. ■

## Cannington Chairman Ends 30 Years' Service



A tribute in the form of a complimentary dinner tendered by his many friends and associates in the electrical industry marked the recent retirement of G. B. Henderson, chairman of the Cannington Hydro-Electric Commission. His outstanding service commenced in 1932, and he was chairman for the last 25 years.

Congratulations and good wishes were extended by a number of guests who recalled the expansion of the Cannington system under Mr. Henderson's wise and capable leadership. He was presented with a gold watch by Miss Islay Lambert, secretary-treasurer, on behalf of the commission.

Shown in the photograph are, left to right: Reeve W. J. Beard; G. D. Farewell, commissioner; Miss Lambert and Mr. Henderson.

## Senior Citizens' Project Wins National Design Award

A National Design Award was presented recently to the architect of the Kinsmen Garden Court Apartments, an electrically heated low-rental housing project for senior citizens in Peterborough.

E. H. Zeidler, of Craig and Zeidler, Peterborough, was presented with the award in Government House, Ottawa, by Governor-General George F. Vanier, on behalf of the Canadian Housing Design Council. The Governor-General also presented an award to Joseph Csumrik, president of the Peterborough Kinsmen Club, which sponsored the project.

Kinsmen Garden Court consists of 30 apartments in six ranch-style buildings, which are separated by a number of landscaped courts to provide a pleasant, non-regimented atmosphere. Underground wiring to



the transformer vault contributes to the uncluttered appearance.

A total of 124 kilowatts of electric heating was installed in the 14 single apartments, the 16 double apartments, and the laundry room, at a cost of \$69 a kilowatt. Inconspicuous baseboard heating units are used, and room-by-room temperature control is provided.

The cost of electric heating, as well as water and taxes, is included in the low rent—\$44 a month for single apartments, and \$55 a month for double apartments.

Apartments are rented on a renewable yearly lease to people over 60 years of age who have been residents of Peterborough for more than a year. Income must not exceed \$146 a month for tenants in a single unit, or \$201 a month in the double unit.

The completed project covers six acres, and the Kinsmen Club is already working on plans for a similar 20-unit project on the same site.

## LOAD-BUILDING

*Load building is here to stay, and, as an essential utility function, it requires all the perseverance and ingenuity at our disposal. This column will be glad to hear from anyone with a fresh approach to the subject or a new twist to a traditional procedure.*

Water heaters are a vital aspect of any well-rounded load-building program, and Preston P.U.C. is among those utilities putting the emphasis on this kind of load.

Its promotional efforts include: a plumber's incentive in the form of a flat fee of \$25 for the installation of a water heater, which is, in effect, a subsidy of \$5 to \$10 to the plumber on the average installation; sale of standard water heaters for installation in new homes at cost less \$10 to discourage installation of inadequate units; twice-yearly letters to plumbers, electricians and builders listing all facets of the water heater program.

On the subject of water heater energy rates, Preston P.U.C. manager J. A. Gurnham has this to say:

"Short of 'all-electric' customers, those using electric water heaters are our next best type of residential customer, so let's give the rate reductions to those who are living up to the slogan 'Hydro is Yours—Use it.'

**Water Heater Contest** — An inter-departmental contest aimed at increasing sales of electric water heater rental contracts by employees was recently staged by Peterborough P.U.C. at a cost of only \$75. Cuff links and tie pins with an evening out at the commission's expense were the prizes. Excluded from the contest were employees with better than average opportunities to sell because of the nature of their jobs.

**Northern Drive** — An intensified drive in North-eastern Ontario to build electrical load was initiated at a recent special meeting of the Northland Muni-

cipal Electric Association, in Sudbury. Work of the standing committee on load building will be greatly expanded, declared Wes Edwards, 1st vice-president of the association, and another meeting will be held shortly to work out a detailed program.

**Consumption Up At Port Elgin** — Year-end statistics released by Port Elgin H.E.C. showed an increase in the use of electric power "beyond all expectations", reported the Paisley Advocate recently. Kilowatt-hour consumption for 1962 increased by 15 per cent over the previous year. In December, an all-time record increase of 35 per cent was reported over the same period in 1961. Much of the increase was attributed to the town's new "all-electric" arena and community centre, and to 16 electrically-heated homes in the municipality.

**Promotion Budget** — Owen Sound P.U.C. likes to know exactly where its going in the field of sales promotion, and at a recent commission meeting a detailed promotional budget of \$14,226 was established for 1963. In addition to salesman's salary, key items included: new school appliances—\$2,000; allowance for conversion to 3-wire services—\$500; electric heating allowance—\$650; survey of city homes—\$2,000. Other items on the budget included radio and newspaper advertising, special promotions and Christmas lighting.

The promotional budget represents about two per cent of anticipated revenue.

## Giant Earth Dam



This is Benmore, largest hydro-electric development ever attempted in New Zealand.

Now under construction on the Waitaki River in the South Island, Benmore will have an output of 540,000 kilowatts (six 90,000 kilowatt units) and cost about \$100 million. It is scheduled to go into service early in 1965.

Outstanding feature of the project is the huge earth dam, largest in the Southern Hemisphere. Sixteen million cubic yards of earth will be used in its building. Dam will be 360 feet high with a crest length of 3,500 feet and a base width of 1,500 feet.

Both North and South Islands have independent transmission systems, but now are to be joined so South Island energy can be transferred to the power-hungry North Island.

The link will be a 500,000-volt direct current, overhead and submarine cable. The land line will be 354 miles, the cable 25 miles.

Three five-inch, gas-filled cables (one a spare) will be laid across the bed of Cook Strait, in 1964.

## Rural Reporting Award



Top honors in rural news reporting for 1962, as represented by Ontario Hydro's award for excellence in this field, goes to E.F.P. (Ed) Youngman, who writes a weekly column for the Bowmanville Canadian Statesman.

He is shown, centre, receiving the plaque from James A. Blay, left, Hydro's director of Public Relations, at the annual convention of the Ontario Weekly Newspapers Association, in Toronto. Hydro Chairman W. Ross Strike adds his congratulations.

Mr. Youngman has been writing for the Statesman for 15 years. An employee of the Ontario Department of Lands and Forests, he is the chief of the 1,400-acre Durham County Forest and the western part of the Ganaraska Conservation Area.

## Hydro Magazines Win Acclaim

Ontario Hydro's two official magazines, Hydro News and Staff News, were among the winners in the 1962 awards program of the Canadian Industrial Editors' Association.

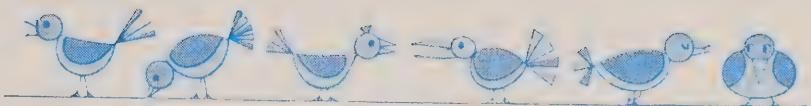
Hydro News was one of 14 magazines to win achievement or progress awards. In addition, it won the Association's "accolade of the month" for its "Highlights of 1962" presentation in the January issue.

Staff News, which goes to all Ontario Hydro employees and pensioners, received honorable mention in the progress category. In all, there were 53 entries.

The judges felt both magazines rated with the "top" company publications in Canada.

Staff News is edited by Don Carmichael, while the design and production on both magazines is handled by artist Al Waddingham.

# OFF THE WIRES



Birthdays are a time for congratulations, and we can think of none more worthy of felicitation than the Red Cross on its 100th Anniversary.

It all started back in 1859, when Henri Dunant, a Swiss banker, witnessed a furious battle between the Franco-Sardinian forces and the Austrians at Solferino, Italy. The influence of a book he published at his own



expense, recounting the tragic lack of medical facilities available for the treatment of the casualties, led to the formation of the International Committee of the Red Cross in 1863.

This committee is composed of 25 Swiss citizens whose services are strictly voluntary. It is the complete neutrality of the group which enables it to act as an intermediary between nations in conflict.

The League of Red Cross Societies, a federation of 88 National Red Cross, Red Crescent, Red Lion and Sun Societies, was originally created to promote Red Cross activities in peacetime. It now represents over 157,000,000 people around the world.

One man's idea has thus grown in 100 years to unite millions of people of greatly varied character and ideology, and the Red Cross has become a strong movement for peace through humanitarian services.

To spray or not to spray, that is the question facing the Milton Town Council in its fight against

Dutch Elm Disease — and two letters soliciting advice from authorities on the subject have only compounded the conundrum. Both spraying and sanitation are necessary, advised the Ontario Department of Lands and Forests, on the grounds that spraying kills the fungus-carrying beetles while sanitation destroys their breeding places. A letter from the City of Montreal advised that birds were more effective in controlling the disease, and that, with pruning of withered branches and the removal of affected trees, the losses could be kept to a minimum. "Above all," the letter read, "we found that we were able to check the disease and keep it at an endemic stage through the use of readily assimilated fertilizers."

Whatever the answer, all holds are barred in the battle against the beetle, but the sneakiest approach to come to our attention was one suggested at a symposium on the disease held recently in Toronto. In essence, it involved sterilizing young gentlemen beetles, infesting them with parasites and turning them loose among the ladies. Apparently it was tried successfully in England.

It is, of course, in keeping with Rachel Carson's much publicized book, *The Silent Spring*, in which she points out some of the adverse effects of indiscriminate use of chemical insecticides and urges full exploitation of other control methods including sanitation and genetics.

Freedom is the kind of thing you don't miss until you lose it, but we wonder how many of us would care to achieve it by crawling hand-over-hand along an energized 110,000-volt transmission line. This is how East German trapeze artist Horst Klein escaped to the West. He took care not to ground himself, but at one point, he said, "I could hear humming in the cable and had a tickling

sensation in my seat." He fractured both arms in his fall from the line.

This is the time of the year when municipal Hydro people from all over the province will be getting their shoes shined and dusting off some of those Christmas ties they have been hiding at the back of the bureau drawer in preparation for the trek to Toronto and the joint annual meetings of the O.M.E.A. and A.M.E.U. The convention will be held March 4, 5 and 6.

And any timid souls who look forward with fear and trembling to the hazards of the big city will set out with added confidence this year, since, as an incentive to advanced registration, \$10,000-worth of insurance is being provided free. The delegate is covered from the moment he leaves home until he sets foot over the threshold on his return.

And don't think conventions can't be dangerous. There is always the chance of inhaling one of those white peas that go disguised as potatoes in the city's largest hostelry. Or some convention tyro might make the mistake of striking a match after too many banquet speakers have been holding forth at length. We personally know a chap who took a nasty fall after a bout with an amendment to an amendment.

In a more serious vein, though, delegates have been coming to Toronto for more than half a century to attend O.M.E.A.-A.M.E.U. conventions, and the calibre of the meetings and of those who attend them has never been higher. Like any convention, it has its social side, but it owes its growth and survival to its accomplishments. Democracy in action, the convention offers municipal Hydro commissioners and managers a voice in the affairs of what has been called Ontario's largest business.

# THE DIFFERENCE BETWEEN A HOUSE AND A HOME

**the magic world  
of low-cost electricity**



**WANT TO ADD A ROOM? YOU CAN INSTALL SUPPLEMENTARY ELECTRIC HEAT FOR LESS THAN IT COSTS TO EXTEND YOUR PRESENT HEATING SYSTEM.** No expensive duct work or structural changes to your home are necessary when you install Supplementary Electric Heat. Baseboard convection units, radiant wall panels, electric heating cable or fan-type heaters can all be installed in home extensions or wherever extra heat is needed—*quickly, easily and inexpensively*. And electric heat is as clean as sunlight—keeps the air comfortable and fresh, free of fumes and dirt. You can have the custom comfort of individual room temperature control, as well.

**EVER THOUGHT OF RE-DECORATING WITH ELECTRICITY?** It's easy—and effective! With literally hundreds of different lighting effects to choose from, inside and outside, you can create just the character and atmosphere you want with built-in lighting.

## **NO HOUSE**

That's why time-saving improvements. When you streamline, comfort, convenience and efficiency proved time and time again to be

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10

## **YOU SPEND ALL YOUR TIME WORKING IN IT.**

Household appliances should be on your priority list of home improvements. For kitchen electrically you are investing in years of extra clothes dryer to the dishwasher, the magic of electricity has never been experienced by a homemaker ever had.

***your hydro***

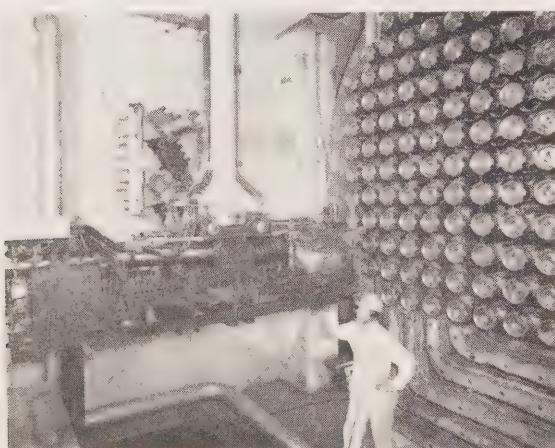
ONTARIO  
**HYDRO NEWS**  
MARCH, 1963



ydro's shopping list  
the gamut from  
oms to blasting caps.  
un-down of  
chasing policies and procedures commences on page one.



Rope has served man for thousands of years, but the product coming off the reel in this photo is as new as the rocket age. One of the latest developments in the petrochemical industry, polypropylene now accounts for most of the rope used by Ontario Hydro. How synthetics are replacing natural fibres is told in the Romance of Rope commencing on page 12. ■



Ten years ago the idea of Ontario Hydro personnel handling uranium in the day-to-day operation of a generating station seemed remote. But, as this photo of the fueling machine at NPD suggests, it came to pass and Hydro men are going about their new duties with a confidence that can only come from intensive training. More details will be found on page five. ■

MARCH, 1963

## ONTARIO HYDRO NEWS

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### THE COVER

Brooms are about as run-of-the-mill as anything Hydro purchases and that's why we chose them to focus attention on a new series commencing in this issue. They, together with items ranging from paper clips to power shovels, make up a shopping list which is one of the most extensive in the country. First in the series, designed to explore policies and procedures underlying the Commission's supply organization, starts on page one.

HYDRO NEWS, VOL. 50, NO. 3

Editor: Don G. Wright.

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# HYDRO IS A CAREFUL SHOPPER

Aware that careful purchasing, like sound engineering or skilled planning, has a substantial effect on the cost of doing business, Ontario Hydro strives to obtain top value for its dollar. And its purchases are enormous and varied. Last year's shopping list included the following items:

- ✓ 1,702,000 gallons gasoline
- ✓ 262,000 wire connectors
- ✓ 17,800 gallons sodium trichloracetate
- ✓ 1,242,300 paper clips
- ✓ 150,000 pounds beef

*Staff Writer Bob McDonell, photo above, interviews H. E. Kennedy, centre, and W. C. Cunningham of Ontario Hydro's Supply Division. For the first of a series on purchasing policy and procedures please turn the page.*

OVER the years, Ontario Hydro has developed a purchasing policy which is highly regarded by all its suppliers as being based on efficiency, common sense, and equality of opportunity in the procurement of goods and services.

But such a policy does not develop without serious thought, planning, and management. To find out how it has developed, what it is, and the results that have been obtained, Hydro News set up taped interviews with panels of top Hydro purchasing personnel who are responsible for the program.

This month's panel includes W. C. Cunningham, director of Supply; H. E. Kennedy, manager of Purchasing; and the writer. Informally, the interview establishes the purpose and meaning of Hydro's purchasing policy.

INTERVIEWER:

*For the benefit of our readers we should establish as quickly as possible the basic policy of Ontario Hydro with reference to purchasing.*

MR. CUNNINGHAM:

Our basic policy is to purchase without favoritism at the lowest cost consistent with satisfactory quality, delivery and service. Under The Power Commission Act, we are obligated to provide power to our customers at the lowest possible cost consistent with satisfactory service. Purchasing or supply, of course, plays an important role in our cost of operations.

INTERVIEWER:

*There is a great deal of concern these days about the amount of goods which Canadians import. Does Ontario Hydro support a "buy Canadian" campaign when price and quality are competitive?*

MR. CUNNINGHAM:

Most certainly. I might say that Ontario Hydro has for years taken a leading role in assuring that Canadian content in its purchases was as high as possible. In fact, over the past ten years, Canadian content has accounted for 85 per cent of our purchases. The 15 per cent which came from elsewhere consisted almost entirely of coal and large mechanical equipment which were simply not available here. It is interesting to note that the percentage value of goods available in Canada but purchased elsewhere by Ontario Hydro for other considerations, such as price and delivery,



accounted for only one-quarter of one per cent of our total purchases during the first nine months of 1962.

INTERVIEWER:

*Those are impressive figures. If memory serves me right the national average of imported goods amounts to approximately 22 per cent. With Ontario Hydro using such a wide variety of highly specialized products, one would have expected the imported percentage to be above the national average rather than well below. How do you account for this?*

MR. KENNEDY:

Several factors enter here. First, I would say we encourage Canadian participation wherever possible. On all our contracts, we insist that tenders be submitted showing sources of supply: that is country of origin, and other information on each major component. Our suppliers are well aware that other things being equal, Ontario Hydro selects the tender with the highest Canadian content. Sup-

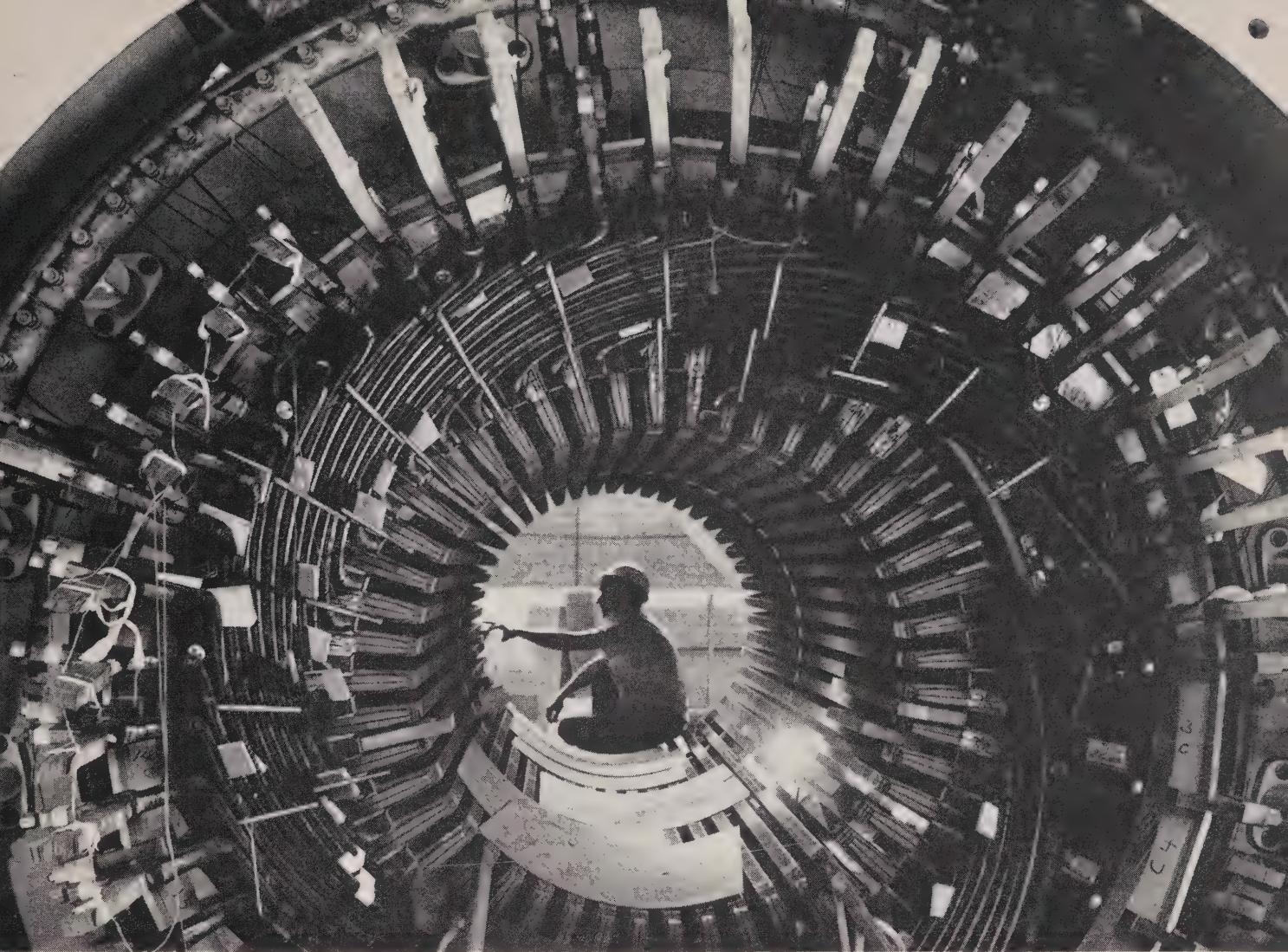
pliers, therefore, are anxious to increase the Canadian content by using their Canadian subsidiaries, by licensing capable representatives in Canada to provide components, and to have Canadians supply as much of the auxiliary equipment as possible.

INTERVIEWER:

*Has Hydro's purchasing policy actually encouraged Canadian manufacturers to undertake production of goods and equipment not previously made in Canada?*

MR. KENNEDY:

We believe so. An example of this is in the manufacture of the very large turbo-generator equipment for our Lakeview thermal station. When the first two units were ordered in 1957, no Canadian manufacturer was able to supply major components. The following year, however, a Canadian subsidiary undertook to produce in Canada 50 per cent or better of a smaller turbo-generator for Thunder Bay generating station. This has been



followed by contracts with another company who has entered the field, involving a substantial Canadian content for units three and four, and an even greater Canadian content for units five and six for Lakeview G.S.

**INTERVIEWER:**

*If Canadian goods are not available, is any preference given in purchases from other countries?*

**MR. CUNNINGHAM:**

We tend to British preference. Great Britain, as you know, buys more goods from Canada than we from her—whereas the reverse is true with the United States. We believe that if one must buy abroad, it is in the best interest of all concerned to help to even out these imbalances in external accounts.

**INTERVIEWER:**

*What steps do you take to assist Canadian manufacturers in bidding on contracts?*

**MR. KENNEDY:**

It is the practice of our buyers to be

always on the lookout for manufacturers who are potential suppliers of equipment, and our engineering personnel also keep a very close check on new developments in the field of Canadian manufacturing. In writing specifications we are careful to see that these specifications do not exclude any manufacturer whose product will perform the functions required in the prescribed manner. Through close liaison with Canadian manufacturers we are able to encourage them to expand their lines.

**INTERVIEWER:**

*Could this not put the foreign competitor in the position of being forced to use Canadian parts?*

**MR. KENNEDY:**

Well, you must remember that our buyers often assist Canadian manufacturers to get together with foreign specialists for the manufacture of the product. While it is realized that we will favor the higher Canadian content, price, service, quality and de-

Canadian suppliers from coast to coast contribute to Hydro's vast requirements in goods and services. Grey arms from British Columbia are installed in the left arm of H. Manly, S.C. Tracy & Sons of Balaam, lower left, turn out linings of stone stones to fit Hydro personnel's needs in the snow. Sides of heat, lower right, help feed water to Hydro's water treatment plants. The quote signs, sometimes hung on utility poles, are 300,000 feet of cable made at Peterborough, Ontario, Canada. In the name of Peterborough, Ontario, Canada, Ontario Hydro offers an excellent product.

livery also enter into the picture.

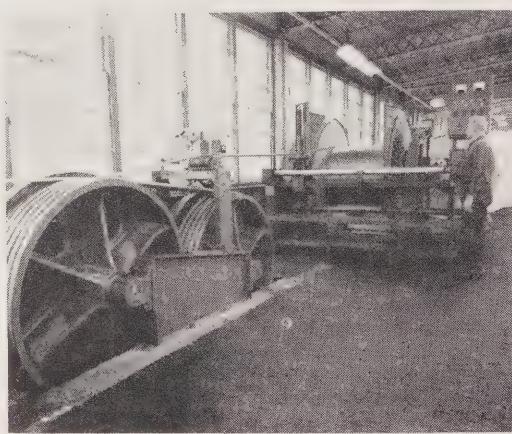
**INTERVIEWER:**

*What is the Commission's policy on revealing bids submitted for Ontario Hydro tenders?*

**MR. KENNEDY:**

Our policy is that no detailed price is disclosed to another bidder or no information concerning the disposal of any business is given prior to the placing of the order. From our point of view, this has two advantages. It allows a firm to quote a lower price without concern for the reaction of other suppliers and our suppliers are more apt to sharpen their pen-

Hydro's shopping list runs gamut from coal to conductors. In photo, lower left, coal is stockpiled at Lakeview G.S. Aluminum conductor, lower right, is fabricated to Hydro specifications. Mobile crane, left, unloads transformer at A. W. Manby S.C.



cils when submitting bids. In other words, they are competing with themselves in pricing—not merely attempting to meet their competitors' prices. While a competitor is always entitled to enquire from us and to be told why he did not receive the business on which he quoted, and which firm did receive it, he is not told the relationship of his tender to the tender of any other bidder. However, in the case of large, complex or construction type contracts where the bidding firms have invested considerable time and money in preparing tenders, we feel that it is often appropriate to publish the approximate award. Apart from general interest, this information assists bidders in assessing their ability to quote on such major contracts in the face of current competition.

**INTERVIEWER:**  
*In view of the lengths to which the Commission goes to assure a high Canadian content why does it not restrict bidding to Canadian firms?*

**MR. CUNNINGHAM:**  
The first and obvious reason is that not all of our requirements can be met by Canadian producers. In addition, a Canadian bidder does not necessarily ensure a high Canadian content in the product submitted . . . in other words, he might be serving as an agent only. The less obvious, but none-the-less valid reason from our point of view is that the widest possible competition is the only assurance that everyone is on his toes and that prices and product quality reflect current developments, new technical advances and so forth.

**INTERVIEWER:**  
*In general, does Ontario Hydro pay a premium for Canadian products?*

**MR. CUNNINGHAM:**  
It is gratifying that the Canadian products we buy stand very well on their own feet competitively. To pay a premium would be to set ourselves up as experts on Canadian industry and the Canadian economy. This function belongs in the hands of the

Federal Government and their tariff experts, who, through GATT and other international agreements, set Canadian custom tariffs to provide for Canadian interests.

The soundness of this was demonstrated a few years ago when a group of Canadian manufacturers made a concerted effort to have Ontario Hydro buy certain of their products in spite of a decided cost advantage for comparable British products.

Having failed to convince either Hydro or the Tariff Board of the validity of their position, they then overhauled their own systems and processes of manufacture. Proof of their success is the fact that they now can compete with foreign suppliers and we are among their best customers.

**INTERVIEWER:**  
*Is any preference given to local suppliers?*

**MR. CUNNINGHAM:**  
Transportation costs and other factors provide a built-in local cost advantage in many cases. To stipulate such a preference, would, in effect, restrict the broad bidding which we feel to be so essential to sound purchasing practice and defeat our primary purpose of obtaining goods and services at the lowest cost consistent with satisfactory quality, delivery, and service. In the case of projects, however, we have established branch purchasing offices to assist local suppliers in bidding on our requirements. Two such offices, in Fort William and North Bay, are now handling a large volume of business for our northern projects.

**INTERVIEWER:**  
*Well, gentlemen, we have covered an outline of Ontario Hydro's purchasing policy, but have opened up many interesting avenues of questioning such as how quality is controlled, how contracts and standards are written and put into practice, what effect taxes and tariffs have on our policy. However, we shall have to examine these in another session. Let's meet here next month to explore our quality control and standards.* ■



Hydro personnel carry out radio-activity check of fuel bundles at NPD prior to loading into reactor.

## WORKING SAFELY WITH THE ATOM

LIKE electricity, atomic energy is perfectly safe so long as it is handled intelligently. And Ontario Hydro moved quickly to ensure, at the outset, that all of its personnel involved in the nuclear-electric program had a thorough understanding of the hazards of radiation and of safe working procedures.

Ontario Hydro people are now operating the NPD nuclear-electric plant near Chalk River, and they are scheduled to man the 200,000-kilowatt Douglas Point Project now being constructed by Atomic Energy of Canada Limited.

Among the latest developments in the safety program are two outstanding manuals on radiation protection. Prepared by Ontario Hydro personnel, in close consultation with the Atomic Energy Control Board and

A.E.C.L., the manuals have been termed by Dr. D. K. Grant, director of Ontario Hydro's Medical Services Division, as "without precedent in Canada" and "a major step forward in the nuclear-electric program of this country".

One, a manual on radiation safety rules and limits, conforms with government regulations and current practice in radiation protection. The second manual, a radiation protection training course, covers nuclear physics, radiation theory, the biological effect of ionizing radiation and the means of protection against this form of energy. The course consists of 75 lectures plus demonstrations, practical work, written and oral examinations and periodic refresher courses.

Dr. Grant, explaining why the

manuals had been written, said that a thorough search of literature on radiation protection training "failed to locate a suitable training course which provided the information we considered necessary, and at the educational level we required.

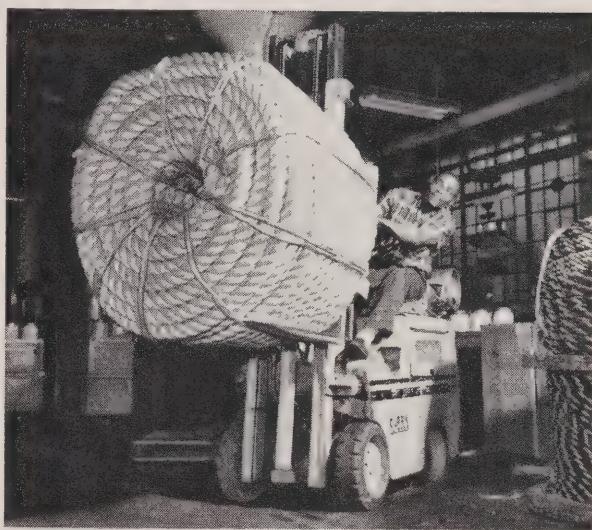
"Similarly," he added, "no existing set of regulations could be adapted to our type of operation and organization. It was necessary, therefore, to write our own manuals, and we are particularly proud of this achievement."

Both manuals are in demand by organizations outside Hydro. Being used by the National Health and Welfare Department, the training course, or a modification, may be adopted by A.E.C.L. in their training program at the Whiteshell project in Manitoba.



The Romance of Rope

Among the newest and most versatile of petrochemicals is polypropylene, shown, opposite page, being used in manufacture of rope. Recent developments in natural fibre rope making have greatly improved pliability and fungus resistance. Photos, below, show manila rope being made in a modern plant. Electric process heating maintains critical temperatures of special compound used to impregnate rope.



**M**ANILA and hemp are words which summon up all sorts of romantic and adventure-filled visions from the past, whereas polypropylene, to most of us, could be anything from a plastic to a prophylactic. Yet no amount of sentiment can disguise the fact that petrochemicals, of which polypropylene is one, are a part of an evolutionary process in which the synthetic is replacing the natural. Rope is an example.

Archaeologists have determined that rope was in use in Southeast Asia as far back as 4000 B.C., probably in the form of pleated throngs made of bark fibre. Heavy rope first made its appearance in the Eastern Mediterranean about 2500 B.C.

Climbing the ladder of history another two thousand years brings the story of rope up to the time of Xerxes, King of the Persians, who, in

480 B.C., built a bridge of boats across the Hellespont during the invasion of Greece. Accounts of the operation tell us that the Phoenicians constructed one line of cables with white flax, and the Egyptians the other with ropes made of papyrus.

Rope-making went on without basic change until the introduction of machinery about the mid-18th Century. Its uses grew more ingenious however, and it became associated with such activities as piracy on the Spanish Main. Cutlass in teeth, the eye-patched marauders used it to swing aboard the vessels of their hapless victims. And rope played a more grisly role when ships of His Majesty's navy caught up with the buccaneers.

Before the machine took over, all rope was spun by hand from natural fibre such as hemp, which was also in demand as the source of the nar-

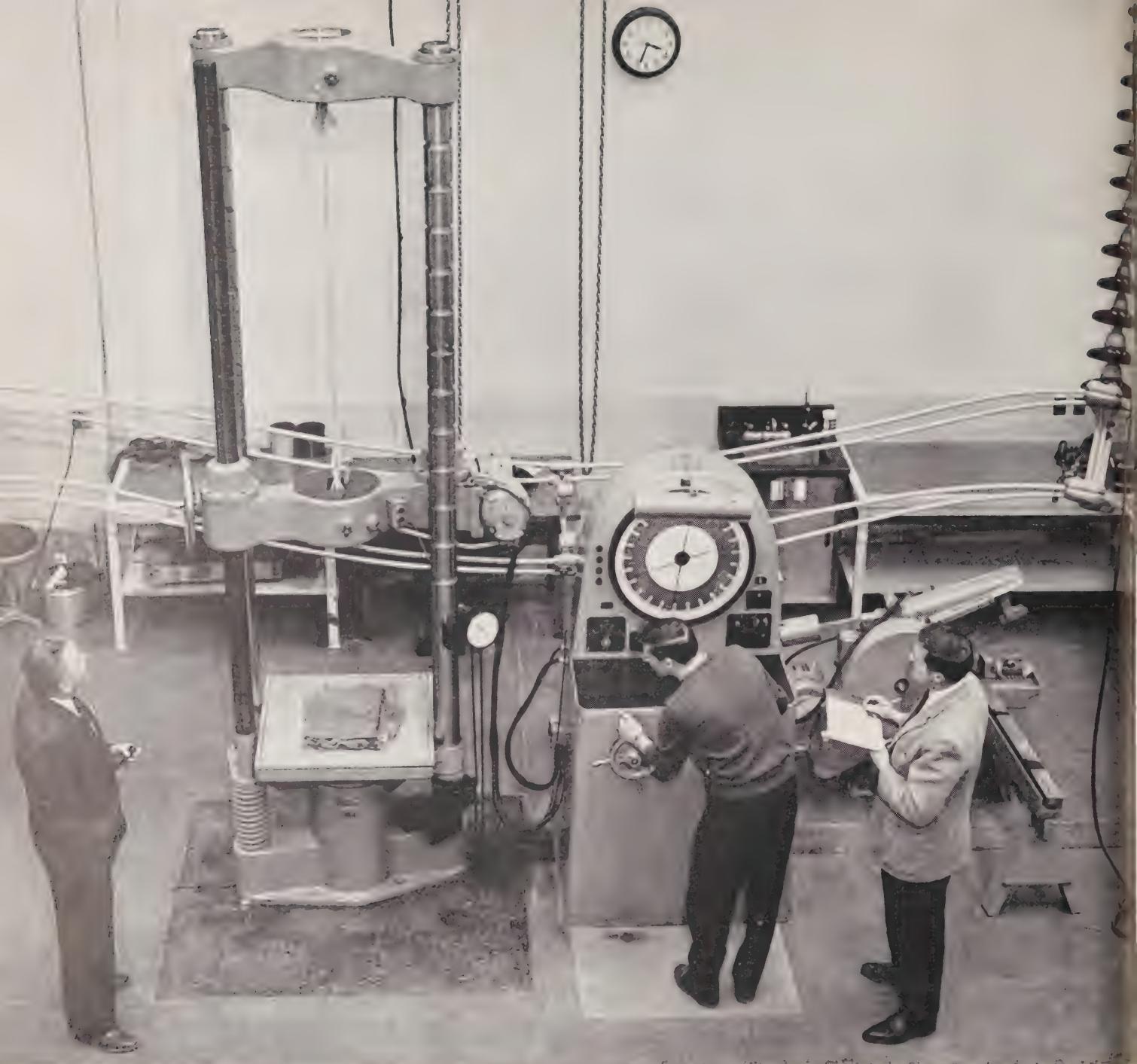
cotics bhang and hashish of the exotic East. Horsepower of the literal kind was used in forming rope too large to be made by hand, and the classic term "ropewalk" comes from the long, low buildings and the continual walking back and forth of the spinners engaged in the rope-making art.

These walks were generally 900 feet or more in length, many of them in the open air, and having a ropewalk within its boundaries was something of a status symbol for a community at the turn of the 19th Century. They were a distinguishing feature of some 170 cities in the United States in 1810.

Recent developments in rope-making with natural fibre — usually manila which is obtained from a banana-like tree grown mostly in the Philippines — have greatly improved

**With enough to stretch from Toronto to North Bay—**

**Ontario Hydro is not coming to the end of its rope by any means.**



the pliability, moisture and fungus resistance of the finished product, but natural fibre is steadily losing out to the synthetic.

In the case of Ontario Hydro, polypropylene and nylon have displaced natural fibre in all but a few applications. And the role rope plays in the Commission's day-to-day operations is suggested by the fact that over 1,000,000 feet are in use at the present time. Of this, some 800,000 feet are polypropylene.

"We'll continue to stock manila for use in some applications where the

superior friction resistance of the natural fibre makes this advisable," says John Platt, engineer, Consumer Goods, whose duties include rope testing, "but manila is rapidly being replaced by synthetic fibre which now accounts for about 75 per cent of the rope we use."

The move to synthetics followed a year of extensive field trials of polypropylene for general use, and of nylon for safety lines used by forestry crews. Both were found so satisfactory that they have become standard stores items. Nylon is now used ex-

clusively in forestry operations after winning enthusiastic endorsement of crew members.

Polypropylene rope was found to have six times the life of manila in conductor stringing, in addition to being lighter and easier to handle.

To supplement field tests, engineers turned to the Research Division's testing facilities. Tensile strength was determined with apparatus having a 120,000 pound capacity which is also used for testing a wide variety of other materials. In addition, Research personnel designed and built a smaller

oup, opposite page, is testing manila rope for tensile strength Hydro's research laboratory. Used for a wide variety of materials, the testing machine has 120,000 pound capacity. In lower photo, engineers John Platt, left, and Charles Walker check machine's dial for breaking point of rope — 9,580 pounds in this instance. They are shown, right, examining sample in "rope life tester" designed by Hydro to simulate strain imposed on rope in block and tackle. Tests indicate that synthetic fibre wears first on surface while manila tends to break internally.



device to evaluate the life of the different types of rope under simulated service conditions.

Over-all results of the tests indicated that, size for size, nylon rope is twice as strong as good quality manila, while polypropylene is 50 per cent stronger. Also on the plus side, the synthetics do not rot, are unaffected by acids and alkalis, and are lighter and easier to handle. Too, they have a low moisture absorption which accounts for their higher dielectric quality and makes them usable in wet or freezing weather.

Ontario Hydro's synthetic fibre ropes are, in effect, custom made. All nylon safety lines are white, while the size and strength of the polypropylenes are distinguished by a color code which includes orange, black, green, yellow and blue for ropes ranging from  $\frac{3}{8}$  inch to one inch in diameter. All Hydro ropes are three stranded and incorporated in one of the strands of each length of rope are two red yarns indicating Hydro ownership.

Manila has a big edge in original cost, but offsetting this and strongly



suggesting long-term savings, is the six-to-one durability factor favoring the synthetics. And while economics are important, safety is vital, and this was taken into consideration when the synthetics were adopted.

But the trend to synthetics in the rope industry is just another example of the shift from products produced directly from the raw materials of nature to those derived, through a shuffling of molecular combinations, from petroleum and hydro-carbons—or petrochemicals as they have become known. ■

## 100 AMPS MEAN BETTER SERVICE

To many of us, the service entrance is the side door to our homes or apartment buildings, but to utilities and electricians the service entrance is one of the most important pieces of residential electrical equipment—but one that often fails to keep pace with modern electrical requirements.

There is little glamor in the odd assortment of wires, switches, conduit, fuses and boxes that make up the service entrance, but it does determine the amount of electricity available in the home, and it has a direct bearing on the degree of electrical living you can safely enjoy.

It was with this in mind that the Ontario Municipal Electric Association, representing 355 municipalities throughout the province, asked Ontario Hydro to introduce regulations requiring new residences in the province, and those being rewired, to be equipped with minimum 100-ampere service entrances and adequate circuit panels to serve the home.

In making the request, the Association believed the following advantages would accrue:

1. **Standardize** regulations across the province.
2. **Prevent** or reduce the overfusing of circuits by providing room for additional circuits to meet increasing loads.
3. **Eliminate** the heavy cost of adding to the distribution panel each time a circuit or heavy-duty appliance is added.
4. **Eliminate** costly remodelling at a later date when the existing panel becomes inadequate.
5. **Counteract** the tendency for con-

tractors to quote prices based on minimum installations as they are often obliged to do under severe competitive conditions.

After study, Ontario Hydro requested, on behalf of its own rural customers and those of the associated municipal utilities that the new regulation apply to applications for inspection made subsequent to July 1, 1963. Private utilities, serving Cornwall, Gananoque, Pembroke, parts of the Niagara Peninsula, Sault Ste. Marie and Tarentorus Township also requested that the new regulation apply to their service areas.

Excluded were houses with less than five rooms or 800 square feet of floor space, and summer cottages.

Late last month, the regulation was approved by the Lieutenant-Governor-in-Council.

The new regulation replaces a variety of local, provincial, and national standards which presently apply, and meets the minimum recommendations of the Electrical Bureau of Canada.

The present situation is as follows:

- Local by-laws in 85 Ontario municipalities already require a 100-ampere service entrance (accounting for about 50 per cent of the province's residential electrical customers).

- Central Mortgage and Housing Corp. requires a minimum of 60-amp. service on all homes financed under the National Housing Act (accounting for more than 90 per cent of new residential construction).

- The Canadian Electrical Code, as applied in Ontario, requires a minimum of eight circuits for home wiring.

The new regulation requires a minimum current carrying capacity of 100 amperes for service entrances, and a distribution panel with room for 20 circuits—at least eight of which can be paired into four 120/240-volt circuits.

The double circuits are necessary for such heavy-duty appliances as ranges, water heaters, dryers, supplementary heating and air conditioning.

While many new homes will not

have a need for all these circuits initially, it is felt that the rapid turnover in ownership and the increasing use of electricity in the home is sufficient to warrant their installation at the time of construction. This removes the need for costly additions to accommodate present or future requirements.

What about cost?

The difference in cost between 100 and 60 ampere service is approximately \$50 for a new installation. This is largely accounted for by added material costs which are expected to decline through savings brought about by standardization. On the average, the new regulation means installations costing about \$135—compared to \$85 for 60-amp service. These prices are subject, of course, to local conditions, and the placement of the service in the home.

The cost of bringing existing services up to 100 amps will vary with the state and capacity of the individual services, but it is likely to be considerably in excess of the figures suggested above.

Owners of existing homes will not be required to meet the new standards if their service entrance equipment is not being replaced. But many owners of existing homes will deem it desirable to bring their entrance service up to the new 100-amp standard.

Commenting on the change, Ontario Hydro Chairman W. Ross Strike said:

"The new standards were necessary to keep pace with the increasing use of electricity.

"The average use of electricity in Ontario has increased 52 per cent over the past ten years, and even greater growth is anticipated during the next decade. The new regulation will ensure a standard of residential wiring capacity for serving modern electrical appliances and will take care of additions in the foreseeable future."

*Housepower panels like this conform to new regulations and ladies will appreciate breakers which can be reset with a fingertip. They also eliminate over-fusing. Fused panels with necessary circuitry are also acceptable under the regulations.*



AMALGAMATED  
ELECTRIC CORPORATION LIMITED

HOUSEPOWER

# technique planning scheduling equipment ingenuity

***These are the factors enabling Hydro to get on with the job***

*Concreting in sub-zero weather is a technique brought to high peak of perfection by Hydro on projects across the province. Photo, lower left, was taken at Little Long. Improved transportation has helped Hydro carry on without regard to seasons. Vehicle, below, is tractor equipped to carry conductor reels on EHV project.*



**W**HETHER the mercury registers 90° above zero or shrinks to a bone-chilling 60° below, Ontario Hydro's construction and engineering forces get on with the job with little regard for the thermometer. While there is inevitably some curtailment of activity in winter, the Commission has achieved a remarkably stable works schedule with seasonal fluctuations reduced to a minimum.

Two main factors contributed to the "show must go on" philosophy adopted by Ontario Hydro at the outset of its far-flung construction program.

Ever since the Commission undertook to provide power at cost to the people of Ontario more than half a century ago, it has been required, with varying degrees of urgency, to meet a tight construction schedule dictated by the ever-increasing demand for power. This was particularly critical during the post-war expansion program, when the pent-up demand released by the cessation of hostilities far exceeded expectations.

Secondly, and regardless of the need for haste, it was obviously uneconomic to maintain a skilled and specialized force on a seasonal basis.

And so the men climbed into their heavy clothing, slipped woolen linings under their hard hats and ignored the icicles clinging to their whiskers. Success in subduing the forces of nature has been achieved with a combination of careful planning and scheduling; improved techniques based on experience; specialized equipment procured or invented; and a goodly application of ingenuity.

Curiously enough, winter is actually used to good advantage in some aspects of the construction program. Take the case of the Newpost Creek Diversion in the James Bay water-



## ALL YEAR 'ROUND

*It was almost 40 degrees below zero when photo, left, was taken at Little Long Rapids. Headworks gate structures are enclosed with plastic sheeting and tarpaulins to protect workers. Photo, below, shows oil-fired portable blower being used on shovel motor to facilitate starting.*



shed area of Northeastern Ontario. Here, a control dam and two canals are being built to divert the Little Abitibi River to permit increased power production at Otter Rapids Generating Station.

Entry to the site, deep in muskeg country, could be gained only after freeze-up, when a wide, highway-like road 20 miles long was pushed through with ease. All heavy equipment needed for the project is now being moved in over this road, and while work will continue at the site throughout the coming summer, all access after the thaw will be by air.

Removal of equipment will have to await the next freeze-up and another snow road.

Another instance where ice and cold, the construction industry's age-old nemesis, were used to advantage was at the Douglas Point nuclear-electric project being constructed by Ontario Hydro for Atomic Energy of Canada Limited. It was necessary to construct a 400-foot-long outfall channel from 30 to 65 feet wide stretching into Lake Huron. To proceed in summer would have involved the expensive procedure of coffer-damming the area and pumping it dry.

Instead, the work was carried out in mid-winter when the shallow shore waters were frozen solid. The ice was used as a drilling platform, and six tons of explosives were loaded into 1,192 holes drilled into the lake bed. Cheaper and faster, this technique will be used again under similar circumstances.

Modern equipment, winter scheduling and ingenuity all played a vital part in construction of the 50-mile-long Manitouwadge - Hornepayne wood pole transmission line built in 1962. Extensive use of helicopters for ferrying personnel and equipment,



*In the final analysis, it's the men who enable Hydro to get on with the job under toughest conditions. Drill operator, top left, typifies rugged but happy breed who take winter in stride. Photo, lower left, could represent section of Queen's Highway in Northern Ontario—instead it's just a stretch of frozen muskeg. This fine snow road was easily pushed through to site of Newpost Creek diversion project now underway.*

*Heart of Little Long project is the shop area where parts and materials are stored and maintenance carried out. In background of photo, top right, is aggregate storage and mixing plant. Steam is a cold weather ally, being used, centre, to thaw out grouting equipment. Improved rock drills enable this rig, lower photo, to make good time in spite of frigid conditions. Site is the tailrace area of Little Long development.*

stringing conductors and placing poles resulted in considerable savings. Again, muskeg was the reason for proceeding in winter, but there were other advantages. Cold weather made the air denser and permitted the 'copters to carry heavier loads. It also enabled them to land on swamps and frozen lakes. Nor were there black flies and mosquitoes to harass the crews.

In temperatures down to 50 degrees below zero, portable blowers were used to beam hot air on the aircraft engines to facilitate starting. Portable generators supplied electric power for lighting and vehicle block heaters.

The hydro-electric project at Little Long Rapids is a good example of seasonal scheduling. The powerhouse structure was built and enclosed last summer. Men are now at work inside the heated structure, placing and welding scroll cases, pouring concrete floors and doing auxiliary electrical and mechanical work.

In the building of dams, much outside concreting and other work must be done summer and winter, but here again improved techniques and ingenuity have proved equal to the challenge. Winter concreting, with the need for protective measures and heating facilities, involves extra cost, but from the quality standpoint, the work does not suffer. And with continual revision to concreting specifications introduced as the result of experience and new developments, substantial economies are being effected.

Wooden or light steel scaffold-type frames are built up around the area where the concrete is to be poured and covered with fire-proof tarpaulins or thick plastic sheeting. Oil-fired automatic boilers supply steam to down-draft heaters, raising the tem-

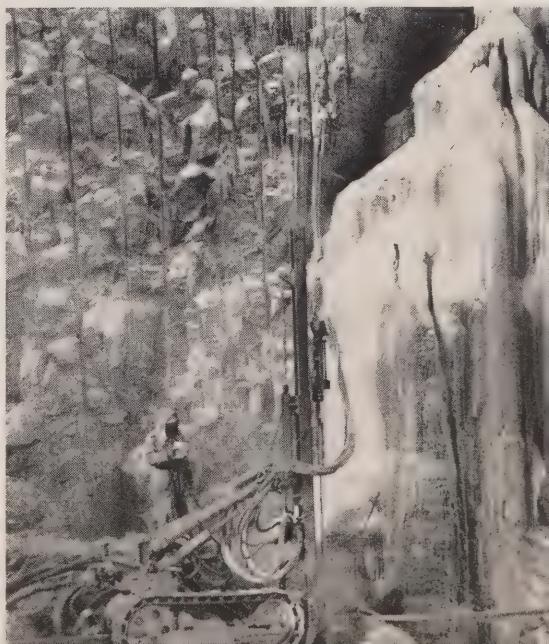
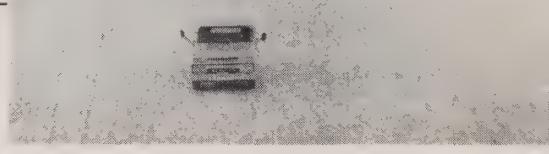
perature inside the frames to as much as 65 or 70 degrees, providing comfortable working conditions. But the primary purpose of the protection and heating is to provide controlled conditions for the development of adequate strength and durability in the concrete itself. The natural chemical reaction of the concrete also generates heat so that the combination provides optimum temperatures for setting and curing.

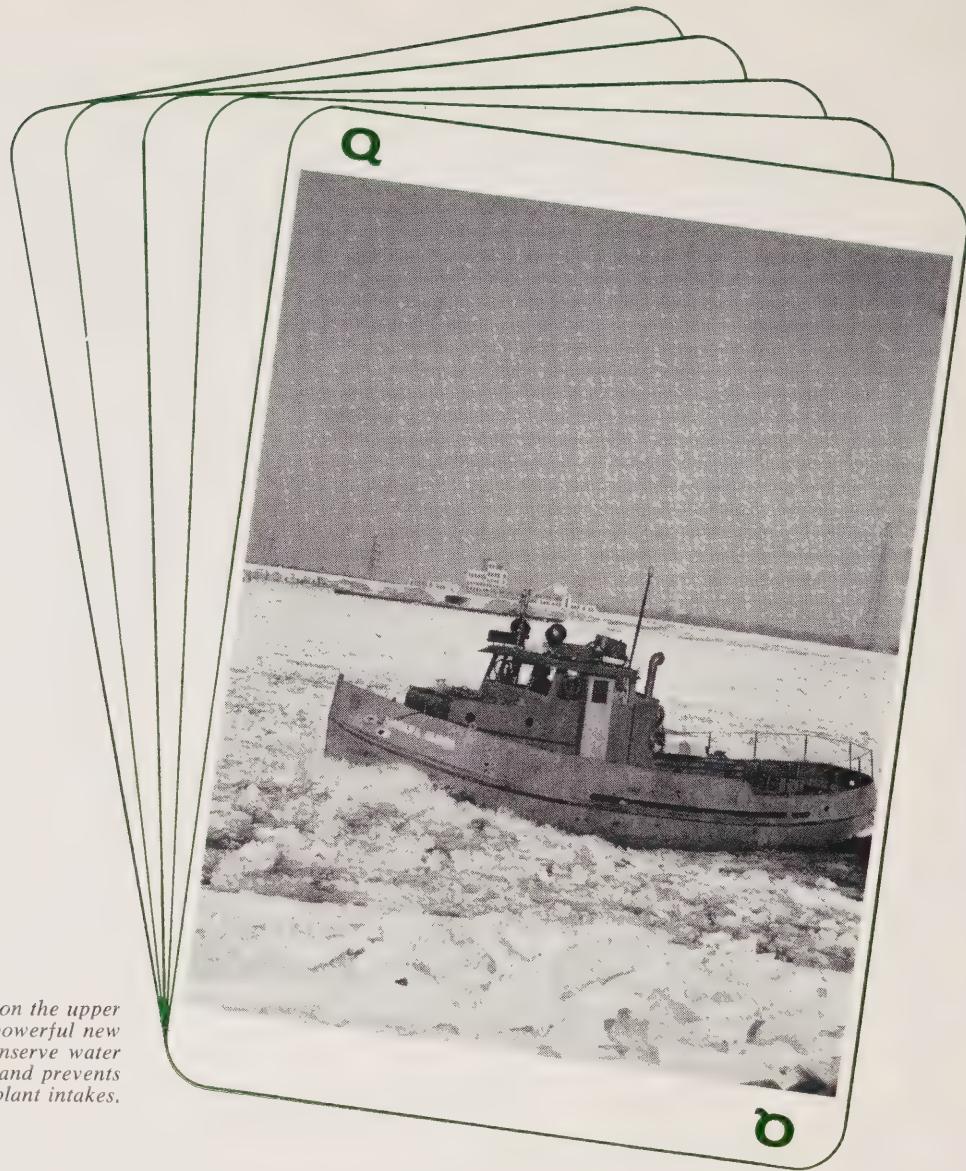
Sand and aggregate piles are continuously steam heated, and the concrete is mixed at a temperature of about 55 degrees.

Mechanical equipment is more reliable now than it was 10 or 20 years ago. Drills, for example, have been improved to permit faster rock drilling in winter. Oils and other fuels are better, ignition systems have been improved, and equipment and vehicles operate more efficiently and with less maintenance than was formerly the case.

And the workers themselves are better equipped to cope with the cold. At Little Long, electric cables are embedded in workshop floors. Better steam and electric heaters provide constant warmth in dining halls, dormitories and other buildings. Many colony homes at Little Long have electric baseboard heaters with individual temperature control in each room. Electric cables wrapped around water pipes and then boxed in keep water from freezing.

Nor should recent improvements in cold-weather clothing be overlooked as one of the factors tending to take the peaks and hollows out of the construction work schedule. Fewer men with better equipment and improved know-how are carrying the load in summer and keeping the job rolling spring, fall and winter. ■





*Surrounded by ice on the upper Niagara River, Hydro's powerful new icebreaker helps conserve water for power production and prevents ice build-up at plant intakes.*

## HYDRO DRAWS A QUEEN

Ontario Hydro has strengthened its hand in the costly contest against Niagara River ice with a powerful red queen. She's a sturdy, 45-foot, 38-ton icebreaker appropriately named Niagara Queen. But to the people charged with maintaining maximum power output from the Niagara River plants she's worth a couple of aces.

Built by Toronto Dry Dock Ltd., the Queen arrived at her berth at Chippawa late last year, after a trip through the Welland Canal. Powered by two independent Rolls Royce engines with a maximum continuous rating of 210 h.p., she is using her

heavy steel-plated hull to good advantage in preventing ice build-up in front of Hydro's power plant intakes above the Falls.

Water is a valuable commodity on the Niagara, and when ice forms across the surface of the river, gates on the international control dam have to be opened so that it can be flushed through. This water might otherwise be used to turn the turbines in the powerhouses. Called "blue" ice — single-layer, unstacked sheet ice — it can be more readily carried away when it is broken up.

The Queen also keeps a channel open at all times to allow the move-

ment of ice in the event of an upriver break-up.

And her debut could scarcely have been better timed. Veteran river observers report that ice conditions in 1962-63 have been the worst in several years.

With alternate skippers and a crew of four, the Queen has been on the go from 16 to 24 hours a day. Capable of handling sheet ice up to 18 inches thick, she maintains close contact with a sister ship operated by the Power Authority of the State of New York since ice on one side can disrupt operations on the opposite shore.

By riding herd on the ice, the Queen is helping make sure that winter doesn't walk off with too many of the chips which Hydro can cash in for vital electric power. ■



# along hydro lines

## Public Employee Unions Plan Giant Merger

Canada's two major unions in the public service field have reached agreement on what has been described as the biggest labor merger in Canadian history. The national executives of the 54,000-member National Union of Public Employees and the 31,000-member National Union of Public Service Employees have agreed on merger terms, subject to ratification by the membership of the two unions.

To be known as the Canadian Union of Public Employees, the new union will be second largest in the country, ranking behind the Canadian section of the United Steelworkers of America. The two unions cover employees of municipalities, hospitals, boards of education, utilities and similar institutions. ■

## Electric Service League Continues Chapter Expansion

In summarizing the activities of the Electric Service League of Ontario in 1962, retiring President James A. Blay was able to report "important and encouraging progress throughout the province." Speaking at the annual meeting, held recently in Toronto, he said the League was doing its utmost to encourage the development and promotion of programs which should result in a wider use of electrical equipment and, therefore, greater benefits to the industry.

Mr. Blay, who is Ontario Hydro's director of Public Relations, revealed that six new league chapters had been formed in 1962. They were Algoma District (Blind River), Kapuskasing, Owen Sound, Quinte and district (Belleville), Stratford, and Welland - Port



James A. Blay, right, retiring president of the Electric Service League of Ontario, accepts congratulations from the successor to the post, Peter Thompson, Northern Electric Company.



Elected to the executive of the Electric Service League at the recent annual meeting, left to right, are: D. C. Brazier, Phillips Electrical Co., 2nd vice-president; Peter Thompson, Northern Electric, president; Harry Foy, secretary manager; and T. J. Curtis, New Toronto P.U.C., 1st vice-president.

Colborne. He said there were now 25 chapters with another five in process of formation.

Considerably more emphasis was placed on the advantages of the Medallion standards during the year, he said, which was reflected in an increase in the number of Bronze Medallion certifications—2,150 in 1962 against 1,564 the previous year. Gold Medallion homes certified rose from 206 to 225 in the same period.

A highlight of the meeting, the elections, saw Peter Thompson, Northern Electric Company, named president. Others elected included T. J. Curtis, New Toronto P.U.C., first vice-president, and D. C. Brazier, Phillips Electrical Company, second vice-president. Mr. Blay and W. R. Harmer, director of Sales, were named Ontario Hydro representatives on the board of directors.

In his report, Harry Foy, secretary-manager of the League, noted that in January, 1962, revisions to the Red Seal, Bronze and Gold Medallion standards had become effective and that, as anticipated, the upgrading of the Red Seal standards had reduced the number of homes certified during the year. They fell from 26,000 in 1961 to 14,400 last year.

"While this may appear serious at first glance, we feel that the number of homes wired to the new requirements represents a real gain," he said.

Guest speaker at a luncheon in honor of the retiring League president, Ontario Hydro Chairman W. Ross Strike, made a hard-hitting appeal for a unified effort on the part of all segments of the electrical industry to promote increased per customer use of electricity. ■

## Hydro Signs Contract For Nova Scotia Coal

Ontario Hydro has signed a contract with the Dominion Coal Company, Sydney, Nova Scotia, for the purchase of 2,850,000 tons of Nova Scotia coal to be delivered over the period from 1963 to 1967. It will be used in the Commission's thermal-electric generating stations.

Commenting on the contract, Robert Muir, member for Cape Breton North and Victoria in the Parliament recently ended, said it was of "tremendous sig-

nificance" to the future of coal mining operations in Cape Breton. "The annual deliveries over an extended period," he continued, "will provide a degree of stabilization for the Nova Scotia coal industry which even the most optimistic could scarcely have anticipated a few months ago."

The Cape Breton member acknowledged that the present level of subventions, administered by the Dominion Coal Board, "was a major factor in bringing the negotiations to a successful conclusion." ■

## LOAD-BUILDING

*Load building is here to stay, and, as an essential utility function, it requires all the perseverance and ingenuity at our disposal. This column will be glad to hear from anyone with a fresh approach to the subject or a new twist to a traditional procedure.*

**Chairman cites electric heat** — Speaking at the recent annual meeting of the Electric Service League of Ontario, W. Ross Strike, Chairman, Ontario Hydro, singled out electric home heating as having "tremendous potential" as a load builder. He said that climate and rates were not primary considerations and that electric heating could be sold on its merits.

The Chairman cited the Tennessee Valley Authority as an example of what could be achieved in this field. He said that eighty per cent of new homes being built in TVA's service area were being equipped with electric heating. He noted, too, that one entire subdivision of 6,500 new homes, in Virginia, was electrically heated.

Mr. Strike warned that the growth rate in kilowatt-hour consumption by Ontario residential customers was sliding "seriously and progressively." Unless we can reverse this trend, he cautioned, we're heading for trouble, and the sooner the whole electrical industry realizes this, the better for all concerned.

**Electric heating incentive** — Determined to win a greater share of the important home heating load, Waterloo P.U.C. has set aside \$20,000 from which it will pay \$200 to the builders or owners of the first 100 homes built this year with electric heating conforming to E.H.A. standards.

Commenting on the plan, P.U.C. manager I. L. Bradley said: "Our offer has created considerable interest, and we have done approximately 20 heat loss calculations since the new year." He said four homes and one apartment building were definitely installing electric heating, and that 1963 would be the "most outstanding" year thus far for electric heating in Waterloo.

**Service is basic** — Convinced that service is a fundamental consideration underlying any load-building program, Chatham Hydro has added the full-time services of Miss Gail Hoyt, home economist, to its Home Service Department. In addition to her many duties, which include cooking and appliance demonstrations to various groups, Miss Hoyt edits an attractive and informative pamphlet published bimonthly. Entitled "Watts News", the pamphlet fea-

tures handy housekeeping hints designed to make electrical living even easier.

**Surveys and load growth** — Port Elgin Hydro is sold on the value of customer appliance and wiring surveys as an aid in load building. Attributed directly to such a survey conducted in the Lake Huron community two years ago is the installation of 90 electric water heaters and the conversion of 33 homes from two to three wire services. In addition, five local restaurants converted to all-electric cooking, while contractors installed well over 300 kilowatts of electric home heating load in 1962. "With the continuation of this trend," a year-end report of the Hydro commission concluded, "Port Elgin will be setting records as the town that lives better electrically."

**Costs and loads** — An appreciation of the direct relationship between unit costs and load was expressed by Leonard Duby, new Chairman of Amherstburg P.U.C., at the inaugural commission meeting. "We have made progress in this utility in the past," he said, "and must continue to expand through improved customer service." He said that with recent rate reductions an extremely favorable climate existed for load building at both the commercial and industrial level. "This practice of increasing kilowatt hour sales is the only way we can offset rising costs," he concluded. ■

### Toronto Hydro Honors Long Service Employees

Methusela may have lived for more than 900 years, but if the 300 people who gathered on the recent occasion of Toronto Hydro System's Quarter Century Club had pooled their service records, they'd have topped him ten to one.

Educated guesses placed the total years of service represented by those attending the get-together at more than 9,000—and pensioners came from as far away as Florida just to renew acquaintances and keep up with developments in the organization where they had served so long.

In such a hale and hearty gathering of long service veterans, the ten new members welcomed to the ranks of the Quarter Century Club seemed virtually tenderfeet in the business of power distribution. No fewer than 32 employees qualified for 40-year pins during the year.

And among the most spry of the pensioners on hand for the occasion were James Redsell, 90, and



*Canada was also a baby when these gentlemen first saw the light of day. They are Toronto Hydro pensioners James Redsell, left, 90 years, and George Laughlin, 93.*



This happy group of new Quarter Century Club members includes, left to right: Irvin Rothwell, Alvin Edwards, John Gallacher, James McCue and John Corrigan. Also with 25-year service are: Robert Wilson, Miss Elizabeth Roberts, Douglas Dowell, Frank Mueller and Mrs. Norma Stephenson.

George Laughlen, a mere 93. Topping the list for long service was MacDonald White, who said he looked forward to continuing his happy association with the Quarter Century Club after his retirement later this year. He has been an active member of the club for 31 years and has over 50 years service with Toronto Hydro.

Among the features of the evening, which veteran Toronto Hydro personnel have come to regard as a highlight of the social calendar, were good food, lifting music and small favors. Extreme brevity in the speeches of welcome tendered by System executives was, in the words of Chairman Bertram Merson, "an added attraction." ■

## MUNICIPAL BRIEFS

**Milton Hydro** headquarters are undergoing extensive renovations including the installation of four types of electric heating to furnish customers with a demonstration of electric heating in action. Cost of the renovation is estimated at \$13,000.

**Gas or electricity?** — that's the 64 dollar question confronting members of the Lindsay Recreation Commission, who must chose between the two systems for heating the newly-renovated Kiwanis arena. Gas heating units have been installed on a trial basis, and Lindsay Hydro feels electricity should be given the same opportunity. As quoted in the *Watchman-Warden*, Commissioner Charles Lamb said:

"The arena is owned by the people and so is Hydro. I feel it only fair that the people's utility should be considered in this heating system."

**Merlin Hydro** has decided to continue paying a \$25 bonus to customers changing over to a three wire service.

**Gus Harris** has been appointed Chairman of Scarborough P.U.C.—a post left vacant by the sudden death of Clare Carslake. M. Walker Broley, runner-up candidate in the December elections, has been

chosen by Scarborough Council to complete the commission.

**Stratford P.U.C.** will equip its metermen and service department personnel with smart new uniforms including shirts, ties, caps, coats and pants. Commissioners felt it would be another step towards building a good corporate image.

**Can the Peterborough Utilities Commission** donate money to the Trent University Fund? Its solicitors advised that it could providing it got a private bill passed in the Ontario Legislature. The solicitors pointed out that although such a bill was approved by the legislature when the commission made a donation to Civic Hospital in 1947, it should be kept in mind that the hospital project was principally to service local needs, whereas Trent University will not limit its students to any particular locality.

**Ontario Hydro's** Georgian Bay Region reached a total of 10,000 miles of rural distribution and 100,000 rural customers in the second half of 1962, Regional Manager J. C. Ferguson reports.

**Canadian Electrical Association** is preparing a brief for submission to the Department of Trade and Commerce, Ottawa, urging that the Electricity Inspection Act (1928) be amended to allow meters to continue in service as long as statistical sample testing indicates acceptable group accuracy.

**Shiny new silver dollars** donated by Scarborough P.U.C. were presented to finalists in the Scarborough Township Elementary Schools district final of the Ontario Public Speaking contest.

**Electric League of Welland** and Port Colborne has been conducting a series of very successful lectures on inspection requirements of the various standards as they apply both locally and nationally. Lecturer Stan Porter, area inspector, has been attracting an average of 60 League members to the sessions.

**Ontario Hydro** has removed the gross monthly minimum bill of \$2 per kilowatt of demand applicable to commercial cooking services in rural areas, while the rate for energy remains unchanged at 1.5 cents gross per kilowatt-hour. This applies to all separately metered commercial cooking loads of 10 kilowatts or higher. The change makes rural billing conform with municipal practices covered by the Standard Interpretation of Rates.

**London P.U.C.** has voted in favor of a Lake Huron pipeline to supply the city with water. Total cost has been estimated at \$18,000,000. The proposal, recommended by consulting engineers, calls for abandonment of 90 per cent of the wells on which London now depends for water. P.U.C. will meet with City Council to discuss the scheme.

**Preston P.U.C.** reduced rates on electric water heater rentals by 50 cents per month a year ago and the move is paying off. Last year, 72 rental units were installed as against 59 in 1961.

**Personalities** in the news include *K. J. Drummond* who has been named manager and secretary-treasurer of Carleton Place P.U.C. He succeeds *M. W. Rogers*

whose death occurred early in January. *W. R. Armour* has been re-elected chairman of the Carleton Place commission. *C. N. Swayze*, Welland, past president of District 5 O.M.E.A., and *Earle Bryant*, Whitby, president of District 1, have been elected chairmen of their respective commissions. *Michael Mallory* of the Winchester Arms Company, has been appointed a commissioner of Cobourg P.U.C. to complete the term of *John Merrifield*, who resigned. *F. C. Curry*, chairman of Brockville P.U.C. for several terms, has returned as a commissioner after a five-year absence. For the first time in its history, Uxbridge has elected a lady Mayor. She is *Mrs. Nellie Kydd*, one of the few lady chief magistrates in the province and a former school teacher. *Frederic Alport*, 79, consulting engineer and a member of Orillia Water Light and Power Commission since 1957, died recently after a short illness. ■

#### **East and West Systems New Hydro Designations**

Because the province-wide, financially integrated Ontario Hydro organization will for some time include two distinct electric operating systems without physical interconnections, the integrated facilities in the former Southern Ontario System and Northeastern Division will henceforth be designated the East System. Those in the Northwestern Division will be known as the West System.

The new nomenclature will in no way affect Regional designation. Like the other Regions, the Northwestern and Northeastern Regions will continue to be known by their present names. ■

#### **Northwestern Booster Dies at Sioux Lookout**

Northwestern Ontario lost one of its most colorful and effective boosters with the recent death of William Walter Fuller, 54, of Sioux Lookout.

A former mayor of the community and a past president of the Northwestern Ontario Associated Chambers of Commerce, Mr. Fuller was a former director of District 3 O.M.E.A., and took an active part in Association affairs both at the district level and at the annual meetings of the parent body.

At the time of his death he was vice-president of the Northwestern Ontario Development Association and president of the newly-formed Sioux Lookout Forest Products Limited.

Born in England, Mr. Fuller came to Sioux Lookout in 1933, where he operated a garage and service station until his death. He was an active Mason and a past president of the Rotary Club. He is survived by two brothers and a sister, all of England. ■

#### **Veteran Commissioners Honored**

Twenty-four commissioners of Ontario municipal utilities with a combined total of 379 years of service were honored at the 54th joint annual meeting of the O.M.E.A.-A.M.E.U., held recently in Toronto. All had at least 15 years' service. They are, left to right, front row: *M. J. Opperthausen* and *W. M. Easton*, Elmira; *Edmund Cecile*, Riverside; *J. W. Duffy*, St. Clair



Beach; *Arthur Girdwood*, Guelph.

Middle row: *W. E. Wright*, Toronto Township; *J. D. Phillips*, Schreiber; *D. H. Thompson*, Williamsburg; *E. C. Piehl*, Tavistock; *C. M. Kramer*, Delhi; *W. R. Tomlinson*, Port Elgin; *Roy C. Warwick*, Blenheim.

Back row: *W. G. Krug*, Chesley; *Ivan Hoffman*, Eganville; *H. R. Kennedy*, Burford; *L. A. Waddell*, Lindsay; *Hubert Cheshire*, Wiarton; *Leonard Stass*, Erieau; *C. R. Buss*, Thorold. Absent when the photo was taken were *C. A. Moulthrop*, Erie Beach; *Robert Rudy*, Tavistock; *Lloyd Paisley*, Arkona; *G. M. Silcox*, Ridgetown and *V. W. Slater*, McGarry Township. ■

#### **Douglas Point Nuclear Plant Will Use Digital Computer**

Pure mathematics gave birth to Douglas Point, Canada's first full-scale nuclear-electric power station, and mathematics will play a role in its operation. It will be the first generating station in Canada to use a digital computer in its control system.

The computer—a Daystrom 636 Control Computer System—will check the temperature of the heavy water coolant leaving the nuclear reactor and automatically equalize production of heat throughout the reactor.

It will also adjust the power output of the plant and assist in detecting leaking fuel elements. The computer system, specified by Atomic Energy of Canada Limited, incorporates flexibility which will open the way to improved methods of operation and control as experience is gained in the operation of such a plant. ■

#### **Beacons in the Countryside**

A dozen eastern Ontario farmers will participate in a trial to determine the value of a new outdoor light for farm use. Similar to a street light, it is controlled by a photo-electric cell which turns the light on as darkness falls, then turns it off again as the light increases in the morning.

The light is expected to increase farm efficiency and to discourage human and four-footed prowlers. Being automatic, the light will always be on to greet families returning home after dark, and it will work while they are on vacation. Ontario Hydro is installing the lights in the East Central Region, and the farmers will be offered the option of buying them after the trial period. ■

# OFF THE WIRES



In one of our recent pokes at the electronic computer and its ability to replace such sterling types as editors and artists (December, 1962), we suggested, tongue in cheek, that the day might come when transistors and solenoids would sideline doctors and lawyers. Utter nonsense, we secretly agreed, until the following A.P. despatch was brought to our attention:

"An electronic computer set up to act as an expert medical consultant has passed its test with flying colours.

"It came up with the same diagnosis as the diagnosing physician in 258 of 269 cases involving well persons and patients suffering from under-active thyroid conditions."

And what about nurses. Not much point in getting sick anymore if computers handle the pulse-taking and bed-bathing chores.

In this materialistic age, where an hour's work for an hour's pay often seems the be-all and end-all of company-employee relationships, its refreshing to find, in the case of an emergency, that humanity still takes precedence.

Take the case of the Niagara Falls Hydro crew which heard terrified screams coming from a residence near which they were working and rushed over in time to save a 12-year-old girl from the cruel flames of a grease fire. And they saved the house as well.

Recently, too, Paul Murdoch, a meter reader with Ontario Hydro's Simcoe Area, was credited with saving a dairy garage and \$50,000 worth of equipment when he happened upon the scene of a fire in its embryo stages.

Not all of us will find ourselves in a position to serve like this, but we will all have plenty of opportunity to provide service just a little above and beyond the call of duty. Even a friendly smile or an extra few minutes spent helping a customer with a particular problem fall in the same general category.

Imitation is the sincerest form of flattery, and we were gratified to see that the Canadian Gas Journal saw fit to reproduce our article, "En Garde", which appeared in Hydro News, October, 1962. The article pointed out how Hydro outhustled the competition in the bid for the water heater load in two sub-divisions. Picked up by the Canadian Gas Journal, it followed the introduction: "We herewith present the story so that the gas industry may effectively counter this shift in tactics by the opposition."

By this time, of course, we will have "shifted" again.

Two Chatham Hydro employees did a honey of a job in dismantling a giant tree in front of the general hospital recently and received a bonus for their efforts. In the hollow of a huge limb they came upon a hive of hibernating bees and collected about a dozen combs of wild honey. A suitable reward for a job well done, but had the discovery been made a few months later it might have had more painful repercussions.

This is not to suggest that the P.U.C. man's life is all milk and honey—as W. A. Rose, manager of the Petrolia utility, will testify. Supervising a crew

searching for a night-time watermain break in sub-zero weather, he stepped into the excavation and was embraced by the frigid water up to his armpits.

The following correspondence is gleaned from the "Tell Zelda" column of the *Carp Review*:

Dear Zelda:

I received an electric blanket for Christmas. I think it is a wonderful thing, but it has caused trouble in the family. My husband says he has been insulted. What do you think?

Troubled.

Dear Troubled:

. . . I agree with your husband. Can the electric blanket correct your English and explain current events to you?

Can the electric blanket explain, and so remove the cause of, your periods of anger, worry and depression?

Can the electric blanket improve your behaviour to the point that you can be accepted in polite society?

True, the electric blanket may be an adequate replacement for your husband in a PHYSICAL sense, but can this collection of wool, wire, cords and switches minister to your emotional and social needs? Never! Get rid of it.

Zelda.

In defence of the blanket we might pose the following questions:

After several years of hard use, can a husband be restored to almost new condition by dry cleaning? Is he available in a choice of colors? Does he have automatic temperature control? Can he be stored in a drawer when not wanted? Never! Keep it.



**Electric heating ELIMINATES  
THE FLAME . . . provides a new  
standard of safety in home heating  
. . . cannot create dust, soot or dirt  
of any kind. It's revolutionizing  
modern living and is within  
every family's means. For more  
information contact your qualified  
electric heating contractor or:**

*Your hydro*

**LIVE BETTER ELECTRICALLY**

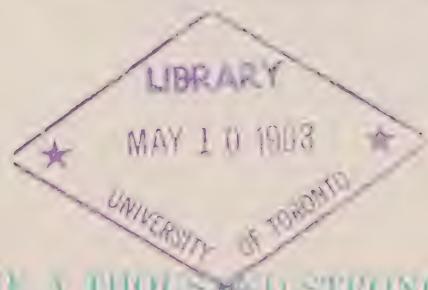
CHIEF LIBRARIAN  
PERIODICALS DEPT  
UNIVERSITY OF TORONTO  
TORONTO 5 ONT

This is one of 17 new advertisements prepared for the municipal electrical utilities to assist in their local advertising programs. They feature a uniformity of layout designed to establish continuity and a "family" resemblance. Mats of stereos are available without cost from the Advertising and Marketing Services Department of Ontario Hydro.

SC. MED. DIV.

ONTARIO  
**HYDRO NEWS**

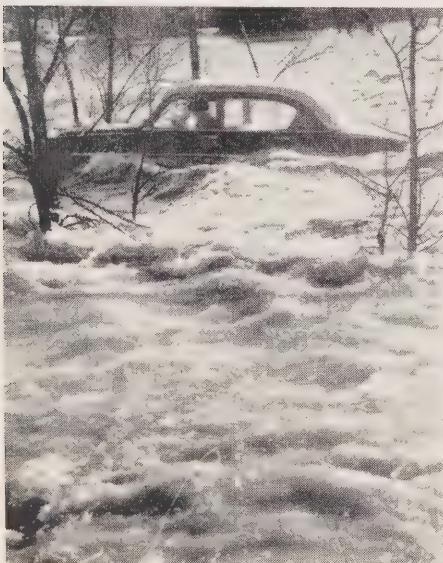
APRIL, 1963



MUNICIPAL HYDRO DELEGATES CONVENE A THOUSAND STRONG SEE PAGE 8



E. C. (Ted) Dash, newly-elected president of the O.M.E.A., lives up to his name as he hurries on to the next session at the 54th joint annual meeting of the O.M.E.A. and the A.M.E.U. More details of this dynamic personality, together with other highlights of the convention, commence on page 9. ■



No matter how you look at it, this motorist is in a bit of a predicament. With the United States Marines busy elsewhere, Hanover P.U.C. employees came to the rescue—as depicted and recounted in "Off-The-Wires" on the inside back cover. ■

APRIL, 1963

## ONTARIO HYDRO NEWS

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### THE COVER

This month's cover has nothing to do with Hydro or electricity but, like Staff Photographer Ted Johnston who took the photo, we found this vanishing scene too appealing to pass up. It depicts the maple sugar bush on the Ego farm, north of Orillia, where tractors and sap pipelines have been unable to replace a stalwart team and hard physical work in one of the country's oldest harvests.

### HYDRO NEWS, VOL. 50, NO. 4

Editor: Don G. Wright.

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Ontario Hydro inspectors Bill Gray and Fred Bywater rough-measure aperture in turbine hub destined for Little Long development. Unit is being made at Scarborough plant of English Electric.

## HYDRO IS A CAREFUL SHOPPER PART II

taped interview with top purchasing personnel, presented in last month's Hydro News, established that the basic policy of Ontario Hydro is to purchase without favoritism the lowest cost consistent with satisfactory quality, delivery and service.

This month Bob McDonell continues the interview—to establish how the Commission defines its requirements and assures that it receives top value for every dollar of purchase. In addition to last month's panel—W. C. Cunningham, director of supply, and H. E. Kennedy, manager

of Purchasing, this month's panel includes L. S. Gardner, manager of Supply Inspection, and R. D. Imrie, Organization and Methods officer.

**Interviewer:**

**Is there a standard method of establishing the quality of Ontario Hydro purchases?**

**Mr. Kennedy:**

Yes, first of all we use national specifications where they are available, such as those prepared by the Canadian Standards Association, Canadian Government Specification Board, American Society for Testing and Materials, and other authorities.

Where national specifications are not available or are not suitable for the particular application, we establish our own.

We also buy on an approved product basis, that is, the product has been already approved by our own Standard's Committee as being suitable for the use intended.

**Interviewer:**

**Who makes up the Standard's Committee?**

**Mr. Imrie:**

It is composed of top management personnel, who set policy and direct the activities of the 24 material com-

Equipment is massive but operation is delicate as workers fit turbine blade to hub of Little Long unit, opposite page, under watchful eye of Hydro inspector Bill Gray. In photo, far right, Hydro inspector Cid Thommason checks welding and spacing of stator frame for Little Long unit in Hamilton plant of Canadian Westinghouse. Photo, right, shows Hydro inspector Harry Coles and Charles Wilkinson, Canadian Westinghouse, examining transformer potheads. Below, Cid Thommason and Arnold McCarthy, chief inspector, Crane Ltd., read radiographs of welding joints for equipment destined for Douglas Point.



mittees, and includes the assistant general manager—Engineering, H. A. Smith, as chairman; the director of Engineering, H. P. Cadario; director of Supply, W. C. Cunningham; director of Research, H. C. Ross; director of Operations, R. H. Hillery; and the director of Construction, P. G. Campbell.

**Interviewer:**

**How are the material committees chosen and how do they function?**

**Mr. Imrie:**

Material committees are made up of personnel representing the end user, for example, Engineering, Operations and Construction Divisions. To assist them in their work they also draw members from Research, Supply and other divisions as necessary. The committee then establishes the requirements or specifications for those items in their commodity group. The purpose of the committee is to standardize items for Commission use, initiate adequate purchasing specifications and evaluate new products within its assignment.

**Interviewer:**

**How extensive is the Standards Catalogue?**

**Mr. Imrie:**

We now have some 13,800 standard items listed—all the way from staples to transformers—and the various material committees are continually reviewing existing standards as well as a wide range of items used or suggested for Commission use.

**Interviewer:**

**How does a company qualify as a supplier for standard items?**

**Mr. Kennedy:**

For purchases made to specifications, all companies capable of meeting the specifications are given an opportunity of bidding. In the case of approved product items, a supplier submits a sample of his product to the material committee concerned for review and testing, if necessary. If it meets our requirements he is then listed as an approved supplier of that product. In the case of "off the shelf" items, any supplier with a suitable product may tender on our requirements.

**Interviewer:**

**Do the same policy considerations of price, delivery, Canadian content and service apply equally to standard items?**

**Mr. Kennedy:**

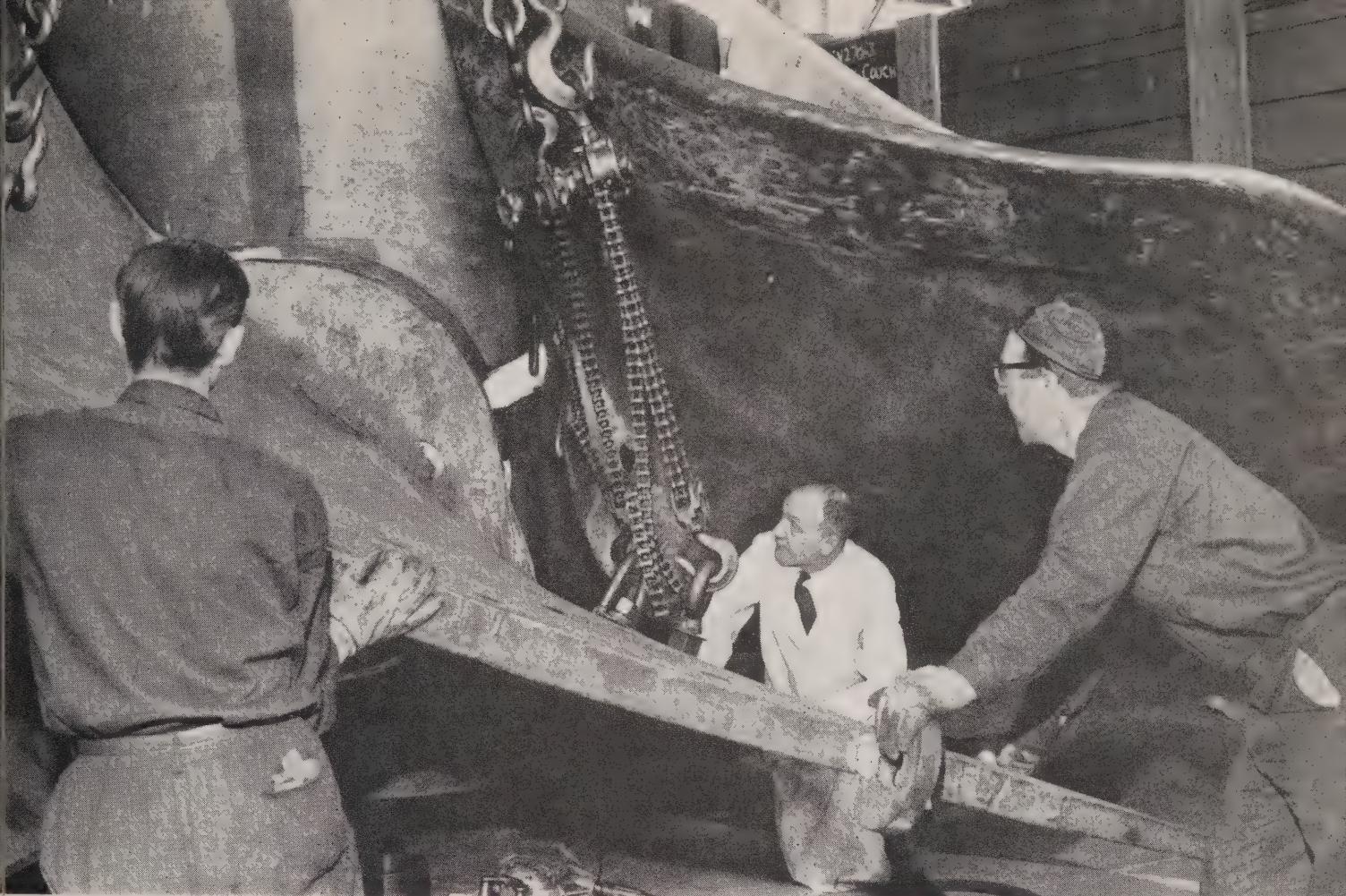
Yes, these considerations apply across the board. I might add that standardization of our purchases, along with the use of the latest inventory management techniques for material forecasts, allows us to make large purchases of many items, affording manufacturers opportunities for economies through planned production schedules. This scheduling is an essential factor in our inventory management program as it assists us in balancing transportation, storage, handling and carrying charges to reduce overhead costs to a minimum.

**Interviewer:**

**How does the Commission assure itself that delivered products meet the specifications and standards set out for these products?**

**Mr. Gardner:**

All major items of equipment are inspected in the shops of the suppliers. Items listed in the Standards Catalogue are inspected either at the source of supply or upon receipt at Central Stores, depending on where the work can be done most economically. The bulk of our purchases are inspected to meet specified



Requirements. Larger items of equipment are inspected to meet the requirements which form part of the tendering document.

Interviewer:

Considering the amount of material ordered, such inspection must require a large and competent staff?

Mr. Gardner:

The Supply Inspection Department maintains a staff of approximately forty people, of whom fifty are inspectors or supervisors, intimately associated with inspection work. In addition, we retain the services of commercial inspection companies to represent us in the United Kingdom and Europe, and in some cases in Canada and the United States, where it is not economical to maintain our own inspectors. Too, we are frequently required to supply inspectors for on-site inspection at various construction projects for such items as welded penstocks, spiral casings for turbines, high pressure steam piping, and the like.

Interviewer:

How exhaustive is this inspection?

Mr. Gardner:

The service requirements and im-

portance of much of the equipment makes it essential that our inspection activities be very exhaustive. In addition to the use of the normal physical, chemical, and electrical tests required to assure that materials and equipment meet specified requirements, extensive use is being made of many of the newer forms of non-destructive testing, such as X-rays, radioactive isotopes, ultrasonic, eddy current, and magnetic particle testing. This is particularly necessary in the case of materials and equipment required for high pressure, high temperature steam plants, and nuclear plants.

Interviewer:

Would C.S.A. or other national standards not be sufficient to assure quality?

Mr. Gardner:

No, as far as electrical goods are concerned, C.S.A. approval covers only safety. Quality of product applies only to the extent that it assures safe operation, and Hydro requirements in many applications must of necessity be more stringent than those laid down. Of course, in some cases C.S.A. or other national codes are accepted

as our guarantee of quality.

Interviewer:

Such a highly qualified and extensive staff both in the field and laboratory must add considerably to the cost of operation. Is it worth it?

Mr. Cunningham:

The evidence we have gained over a lengthy period of time certainly proves to us that it is. For example, one of the keys to Hydro's purchasing policy of buying at lowest evaluated cost is a strong inspection force to ensure that we obtain the quality specified and not simply an item at a price.

As we can ill-afford costly breakdowns in our equipment with resultant loss of service to our customers, we consider inspection a valuable investment rather than simply an additional cost.

Interviewer:

Thank you, gentlemen. We have examined the basic considerations in Hydro's policy on specifications and inspection. Let us meet here next month to consider such factors as transportation, customs, taxes and other interesting sidelights which enter into any purchasing policy. ■

## *High explosives are a force to be reckoned with in Hydro's construction program*

**O**n Dominion Day, 1958, at precisely 8 a.m., two fingers pressed down on a switch in a log and sandbag bunker on the banks of the St. Lawrence River, near Cornwall. Half a mile away 30 tons of explosive blasted off, shattering the calm of the wet July morning.

The fingers detonating the charge belonged to Dr. Otto Holden, then Ontario Hydro's chief engineer, and his counterpart on the Power Authority of the State of New York. Huge gaps were torn in a 600-foot cofferdam by the blast and the waters of the St. Lawrence began to rise behind the new dam.

Although one of the largest, this blast was only another in a long line of big bangs triggered by Hydro since the day it started work on its first power development at Wasdell Falls on the Severn River. Thousands of tons of explosives have been used since to crumble rock and earth in tailrace excavations, diversion channels, powerhouse areas and countless line construction jobs.

And down through the years Hydro has kept abreast of the latest techniques and materials employed in the delicate art of blasting. In close liaison with the explosive suppliers, it has, on occasion, set the pace in adapting explosives to the highly specialized tasks encountered in the business of developing power resources.

The role of explosives as a construction ally is illustrated by Hydro's current development at Little Long Rapids. By the end of 1962, field crews had excavated 770,000 cubic yards of rock, and in so doing had put about one million pounds of explosive to work. Gerry Mennie, a Hydro engineer who's had a lot to do with explosives, says the Commission ventured into new fields on the Little Long job.

"In dry conditions we've been using a newer type of blasting agent

to replace some of the more expensive high explosives used normally."

Mr. Mennie says the blasting agent is ammonium nitrate, which is a commercial fertilizer. It's mixed with ordinary fuel oil at explosive plants to produce prills. These are round pellets smaller than peas which are delivered in 50 pound plastic bags and simply poured into drilled holes. They're insensitive, safe to handle, and much more economical than anything previously used.

In dry holes high explosive charges are placed at the bottom and near the top and the remainder filled with prills.

Electric blasting caps, used by Hydro for the majority of jobs, are placed with the high explosive for initial detonation. These caps have two wires connected within the cap by a fine bridge wire of high resistance which heats to incandescence when an electric current is applied. The caps, in turn, set off the high explosive which detonates the prills. All this happens in a fraction of a second. But prills are useless under wet conditions.

The high explosives commonly used by Hydro are gelatin dynamites with an explosive base made by dissolving nitroglycerin in nitrocellulose with other ingredients added.

This year, incidentally, is the 100th anniversary of the first commercial-scale production of nitroglycerin. The man responsible was the famed Swedish chemist and inventor, Alfred Nobel, who is, perhaps, best known for the international prizes which are awarded annually from a fund he established.

Because nitroglycerin is an extremely unstable compound, decomposing with great explosive violence upon slight jarring, it is mixed in small quantities with absorbent materials to form a safe explosive. Nobel first produced a stable, solid explosive in 1867 after there had been

several fatal accidents with straight nitroglycerin. He called his product "dynamite".

Handling modern explosives is a routine matter provided the users are trained and experienced. Hydro's Accident Prevention Director Bob Harrison says there have been accidents in the past, but nowadays they're few and far between. On big projects the excavation superintendent is responsible for blasting operations, and his men are experts in the field. Skilled powdermen also handle all explosive work on line and station building.

Among the tricks of their trade is a technique known as milli-second delay which is often used where large-scale blasting is to be carried out, particularly in built-up areas where flying debris is a hazard. By inserting delay elements between the ignition portion of the blasting cap and the base charge, firing is staggered. While these milli-second delays are not discernible to the eye, the technique has several advantages over simultaneous firings.

Milli-second delays improve fragmentation, reduce "bootlegs" (unexploded holes), concussion and vibration, produce a controlled throw of rubble and diminish the number of cut-offs in adjacent holes. The method also reduces the quantity of explosive needed to produce a satisfactory blast and, hence, the cost.

For underwater blasting, Hydro has used another blasting agent, also largely ammonium nitrate, which is packed in water-tight cans and is not subject to propagation when charges in nearby holes are fired.

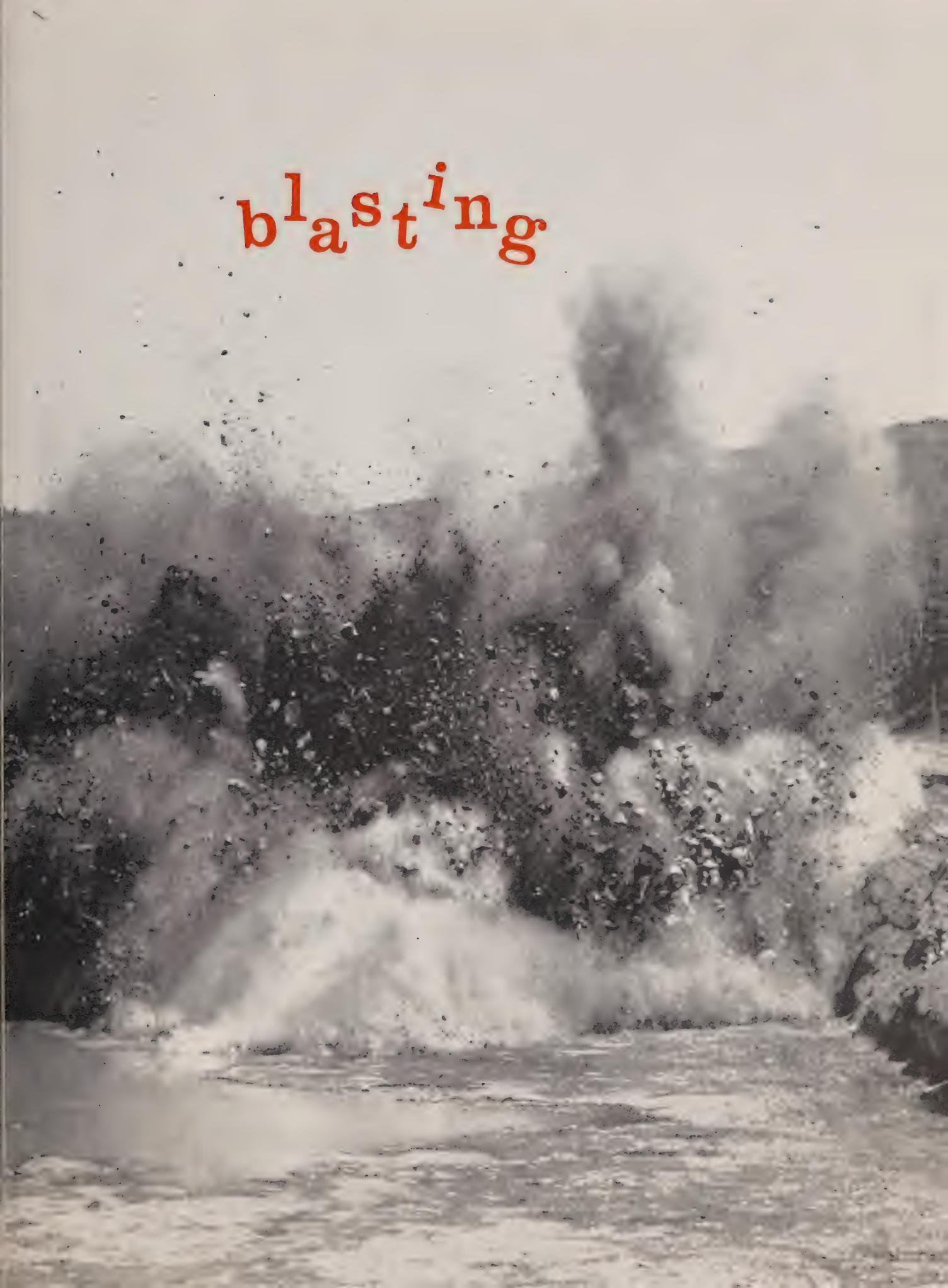
This agent, normally used by Hydro to blast rock and earth plugs and cofferdams, was put to work in unusual circumstances at Douglas Point in the winter of 1961-62.

Hydro, building the nuclear power plant for Atomic Energy of Canada Limited, had to construct a 400-foot

by Max Lambert

# the delicate art of

blast<sup>ing</sup>





Ice was used as drilling platform, top left, during unusual Douglas Point blasting project.

Powderman, top right, loads drill hole with gelatine type explosive at Little Long development. Photo, centre right, shows results of controlled delay blasting in tailrace area at Little Long. Spectacular blast, above, demolished rock plug during Root River diversion project. Hammering effect of Niagara blast, right, was dissipated by air curtain. Photo, opposite page, shows 30 tons of explosive detonated to breach St. Lawrence cofferdam.



itself channel from 30 to 65 feet wide, stretching into Lake Huron on the site. By doing the job in inter, and utilizing the solid shore as a drilling platform, costly overdamming was avoided.

Six tons of explosives were loaded into 1,192 holes drilled in the lake bed and patterned to cut the channel. After the blast a dragline easily scooped up the fragmented rock which the explosion had piled up above the lake bed.

One of the more novel blasting techniques used by Hydro was the one which accomplished the destruction of a rock plug in the final stages of the building of Sir Adam Beck No. 2 plant at Niagara.

Because water is non-compressible it would transmit the shock of the blast directly to the older No. 1 plant only 85 yards away, the obvious method would have been to close down the generators, drain the fore-

bay and blast out the obstruction in the dry. But the obvious wasn't done.

Explosive experts came up with the idea of an air curtain in the forebay to dissipate the waves of concussion set up by the detonation. The potential savings involved appealed to Hydro engineers enough to try it on a miniature scale. For two months they experimented at the Research laboratory until the element of chance was reduced to a minimum.

Full-scale piping was then laid out and the assembly lowered to the forebay floor, crossing it parallel to the face of the rock plug and powerhouse. Compressed air was forced into the piping system at such a pressure that the upward rush of churning air raised the forebay surface about four feet above normal.

The air cushion, composed of millions of bubbles, absorbed the con-

ussion so well that the hammering effect transmitted through the water was estimated to be only one seven-tieth as intense as it would have been without the shock absorber. Far below the surface the turbines spun without interruption.

Following initial success of the scheme it was used a second time in the Niagara gorge to soften a blast that removed a similar rock plug between the river and the tailrace excavation of the No. 2 plant. The second air curtain was 750 feet long.

These were some of the more unusual projects in Hydro's long history of blasting but, by and large, the construction man has come to regard high explosives as just another tool enabling him to get on with the job faster and more efficiently. Like a carpenter's plane or a power shovel, the extent of their usefulness depends upon the knowledge and skill of the men who employ them. ■



# Cascade 40

SUPER-FAST ELECTRIC  
WATER HEATER



## "CASCADE 40" IS UNDER WAY

A new and exciting approach to the electrical industry's marketing problems made its Ontario debut at the National Home Show held recently in Toronto.

Displayed against a wide semi-circular backdrop, 10 modern water heater units, produced by as many manufacturers and each bearing the "Cascade 40" ensignia, suggested that here, indeed, was something unique in co-operative advertising.

Essentially, Cascade 40 is a campaign uniting the efforts of the various segments of the electrical industry in the promotion and sale of a high-recovery electric water heater unit on a national basis. It is the first salvo in a co-operative promotional barrage which, in the years ahead, is expected to zero-in on a number of important load-building appliances.

Spearheaded by the newly formed Sales Promotion Development Bureau of the Canadian Electrical Association, the program has the full support of manufacturers as represented by the Canadian Electrical Manufacturers Association. Through its mem-

bership, which includes provincial utilities across the country, C.E.A. will provide mats, folders, labels and other materials at cost so that each supply authority can participate in the Cascade 40 promotion as it sees fit.

In Ontario, the Ontario Municipal Electric Association and the Association of Municipal Electrical Utilities enjoyed a preview of Cascade 40 at their joint annual meeting, in March. Judging by the interest shown in the presentation, many of the municipal utilities will be participating.

At the provincial level, Ontario Hydro has indicated that Cascade 40 will be prominently featured in its 1963 water heater campaign. It reports substantial interest in the kick-off display at the Home Show.

In selecting water heating equipment for its first venture, the C.E.A. is promoting one of the most important sources of utility revenue from residential customers and one which provides a relatively constant load factor throughout the year. In choosing "Cascade", the Association kept in mind the need for a name that

On display at the Home Show, these water heater units all bear "Cascade 40" labels.

means the same in French as it does in English. The "40" indicates the capacity of the tank in Imperial gallons.

Other features of the Cascade 40 unit, adopted because it will meet the hot water requirements of the average family, include a 1000/300 watt flip-flop element arrangement, minimum warranty of 10 years on the tank and one year on parts, as well as other requirements to assure top performance. The C.E.A. will license any manufacturer whose water heaters meet the requirements of the C.E.M.A. standard type IV unit.

"The most important part of the program from the manufacturer point of view," says C. S. Lam, chairman of the Water Heating Section of C.E.M.A., "is standardization. In addition to eliminating the cost of maintaining scores of different elements, tanks, and parts for the great variety of units previously in demand across the country, he points out, standardization will allow larger production runs with resultant savings which can be passed on to the customer."

# A VITAL FORCE

One of Canada's oldest and largest annual business meetings has recently been concluded in Toronto where more than 1,300 delegates representing some 355 municipal electrical utilities across the province convened for the 54th time.

It was the joint annual meeting of the Ontario Municipal Electric Association, comprising utility commissioners, and the Association of Municipal Electrical Utilities, which is composed of chief administrative, accounting and engineering executives.

Historically, the two associations stem from the public power groups formed just after the turn of the century to champion the cause of a publicly-owned hydro-electric power system. Following the creation of Ontario Hydro, the two associations were formed to undertake expanded activities on behalf of the municipalities and to provide vital liaison

among themselves with the provincial commission.

Both associations have continued to perform a vital service to the people of Ontario. The O.M.E.A. works to present a clear picture of the problems encountered by municipal Hydro systems and to secure the co-operation of the parent Commission in their solution. The A.M.E.U. concerns itself with matters of business and technical management as well as the dissemination of information on many specific aspects of modern electrical utility operation.

Long partners in giving direction and vigor to Ontario's public power enterprise, the two associations represent well over 90 per cent of the province's municipal electrical users.

Highlights of the 54th joint annual meeting will be found on the following pages.





PREMIER JOHN ROBARTS

*"Hydro has kept pace with the needs of the people."*

EVER since the advent of public power in Ontario, by act of legislature more than half a century ago, the attitude of the provincial government towards the Ontario Hydro family has been of over-riding interest to members of the unique Hydro organization.

It was against this background that delegates to the 54th joint annual meeting of the O.M.E.A. - A.M.E.U. awaited the address by Prime Minister John Robarts for indications of current government thinking. They received a forthright declaration by Mr. Robarts of government confidence in the two associations and in Ontario Hydro.

The Prime Minister of Ontario paid tribute to the Hydro family's "record of achievement" and "demonstrated sense of responsibility." He won warm applause when he said:

"Let me assure you now that this government has no intention of impeding in any measure the functional autonomy of Ontario Hydro and its associated municipal systems.

"With your vital assistance, Hydro has kept pace with the needs of the people—and nothing is more important to this government than those needs. In my view, the public good is best served by the present system

of public power that has promoted and encouraged the development of this province."

Mr. Robarts congratulated the A.M.E.U. for its constant effort to improve the quality of service. And he said the O.M.E.A. had assisted both Ontario Hydro and the government in its "careful and fact-based presentations" designed to protect the interests of the municipal utilities.

The Prime Minister said he believed that the assets and revenue of Hydro should be used, as in the past, to improve service and efficiency, and to keep rates down.

"Some have asked whether earning a surplus to give to the government might not be wise. I think the present system is wise."

Reviewing the history of Hydro and its contribution to the provincial economy, Mr. Robarts told the delegates:

"You and Hydro are fulfilling and indeed surpassing the bright promise of Detweiler, Snider and Beck, and are doing it in the best possible way—perhaps the only way."

He said the Hydro organization was "eminently appropriate."

"It is just that the municipalities should own the system. It is fitting that government should contribute as it has. It is proper that Hydro, pioneering and expert, should be free to use its skills with efficiency and autonomy."

He compared Hydro and government to contractors and inspectors working on the same project, and concluded:

"It is true, government is watching, as our duty dictates we must. And watching, we say to you and to Hydro now as we have consistently said: keep up the fine work."



P. R. LOCKE

*"The O.M.E.A. is a sounding board of public opinion."*

ARE some municipal commissioners becoming apathetic to the basic concepts and role of the Ontario Municipal Electric Association as the "watchdog of Hydro"?

Percy R. Locke, veteran St. Thomas Public Utilities commissioner and O.M.E.A. executive, posed this pertinent question in his presidential address at the outset of this year's annual meeting.

Reporting on his stewardship in the past year, Mr. Locke pointed out that his attendance at eight of the nine district association annual meetings which, he said, were "well-planned and conducted", prompted him to recommend that "the district officers survey the attendance with a view to determining why some municipalities have no representation at all in the transaction of one of Canada's most important and largest businesses.

"If this great co-operative enterprise is to continue to progress," he went on, "every commissioner should avail himself of the opportunity of serving his district association and, thereby, the provincial organization. You will then appreciate more

fully the responsibilities and the complexities in the operation and the promotion of this huge organization."

While admitting that membership in the O.M.E.A. this year was the largest in the history of the organization, Mr. Locke felt that members "must never let up" in their efforts to protect, promote and preserve the association, which he called "the foundation of our Hydro heritage."

... "It is in the O.M.E.A. that you really become an enthusiastic member of the great Hydro family," the retiring president told his attentive audience. "The association is a sounding board of public opinion—and as public opinion is the highest court, no greater service could be provided to the Ontario Commission (Ontario Hydro) in its deliberations."

The parent association, in Mr. Locke's opinion, had amply fulfilled its basic obligations and responsibilities during 1962. He thought this had been especially evident in the various activities undertaken to clearly redefine the legal position of the O.M.E.A. and the fundamental relationship between the association, Ontario Hydro and the Ontario Government.

In this connection, he specifically mentioned a paper prepared by a special committee on legislative matters under the chairmanship of Dr. R. H. Hay, Kingston, which had been presented at the annual meeting of each of the nine O.M.E.A. districts "with most gratifying results." He said a brief had been prepared on this subject by the O.M.E.A. for presentation to the Select Committee of the Legislative Assembly appointed to consider administrative problems of the Ontario Government.



RONALD HARRISON

*"The general impression I have of the utilities in this province is one of progress and efficiency."*

A POSITIVE and alert approach to prevailing problems and trends in the electrical utility field on the part of A.M.E.U. members was suggested in the inaugural address by President Ronald Harrison, general manager, Scarborough Public Utilities Commission.

Supporting his statement that "there certainly has been no lack of activity throughout the year," Mr. Harrison pointed out that 26 committees were actively engaged in various phases of association work, with more than 100 utility representatives contributing their services to these committees. He said that 280 municipal utilities now held membership in the A.M.E.U.

After a term of office in which he had represented the association at O.M.E.A. meetings "from one end of this province to the other," Mr. Harrison said: "The general impression I have of the utilities in this province is one of progress and efficiency."

A highlight of the A.M.E.U. presidential review was the emphasis Mr. Harrison placed on the need for uniformity in sales promotion policies, regulations, and rate structures among the

associated Hydro utilities.

In stressing the importance of increased co-ordination, the speaker reported that a deputation from the Electrical Contractors' Association had recently asked for a hearing with a special committee of the A.M.E.U. and Ontario Hydro to discuss two areas where difficulties had arisen. These were (a) lack of uniformity in the interpretation of rules and regulations by electrical inspectors and (b) lack of uniformity in regulations laid down by the utilities.

On the subject of electrical rates, Mr. Harrison pointed out that uniformity in rate structures was urgently required in order to simplify billings, to achieve better understanding among customers, and to make the rates "more promotional".

He hoped that any lack of co-ordination in sales promotion among the utilities would be largely overcome by the recent appointment of a special joint advertising and sales co-ordinating committee with representation from the O.M.E.A., the A.M.E.U. and Ontario Hydro. "It is hoped," he said, "that now the general policies for sales promotion will be co-ordinated and work for the benefit of all."

Dealing with the external activities of the A.M.E.U., Mr. Harrison revealed that the association was maintaining close liaison with, and participating in the deliberations and affairs of such groups as the Co-ordinating Committee for Electrical Utility Standards, Canadian Standards Association, Canadian Radio Technical Board, Electrical Utilities Safety Association, Electric Service League of Ontario, Electric Heating Association of Ontario, Canadian Electrical Association and the American Public Power Association. ■

**I**n a comprehensive review of Ontario Hydro operations during which he touched on subjects ranging from the benefits of interconnections to the use of helicopters in line building, General Manager J. M. Hambley pointedly stressed load building.

Referring to load building "as a subject that should concern every person in this audience, and every employee working for every commission represented here," he explained how the great benefits of electricity, evident in the higher standard of living prevailing,

were directly related to the decline in the cost of a unit of electricity. In terms of constant dollars, he continued, a kilowatt-hour of electricity in 1962 could be purchased at about half the cost of a kilowatt-hour in 1940.

But Mr. Hambley cautioned that the tendency of production costs was to rise, reflecting more expensive materials, labor and interest rates.

"We are doing everything in our power to bring production up at equivalent or better rates," he said, "but if we are going to produce more, we must obviously sell more, and there are many indications that sales will not absorb our rising production costs without a real selling effort on our part. And a good sales program involves everyone."

Continuing his theme, the general manager warned that the kind of growth experienced in the past had not come about by chance. Growth must be carefully nurtured, he said, and it could best be nurtured when every employee was conscious of his personal responsibility to give the best possible service.

Mr. Hambley singled out space heating as having enormous potential in the load-building field. He referred to the recent opening of Canada's first all-electric subdivision, in Etobicoke Township, as an "excellent demonstration of the practicality and charm of all-electric living." He felt it was the most effective way to meet the strong competition for the cooking, water-heating and clothes-drying load.

"Neither you, nor we, can afford to coast along on the mistaken assumption that the present low rates for electricity can be sustained on the small appliance load alone," he concluded. ■



J. M. HAMBLEY

*"A good sales program involves everyone"*

*Voting on resolutions, right, is done by show of hands. Among many participating in debates were, left to right, lower photos: C. J. Murphy, W. R. Tomlinson, E. W. Curtis, Mayor Charlotte Whitton, E. J. Groves and Dr. R. H. Hay.*

# RESOLUTIONS HIGHLIGHT CONVENTION



Alarmed at the apathy he thought had been manifested by the relatively few resolutions on this year's agenda, E. C. Dash, chairman of the Resolutions Committee, took delegates to task at the outset of the sessions for their attitude towards what he termed "the life and backbone of the convention."

But his fears proved ungrounded, and as the meeting proceeded he found himself presiding over sessions which veteran commissioners agreed were among the best attended in the history of the Association. Participation from the floor was reassuringly high and few resolutions went unchallenged.

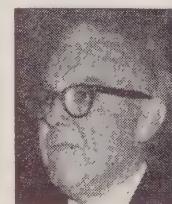
Delegates first came to grips with a resolution submitted by District 4 requesting that Ontario Hydro set aside a block of its next bond issue in smaller denominations and that this be made available to the general public and to municipal and provincial Hydro employees. Provision would be made for the latter to purchase the bonds through payroll deduction.

In endorsing the resolution, delegates did so in the face of a recommendation of non-approval by the Resolutions Committee. It was the Committee's view that bond prices tend to fluctuate and that it would adversely affect labor relations if employees were forced to sell at a loss.

In support of the resolution, Ber-

tram Merson, Toronto, urged more faith in the performance of Hydro bonds and suggested that "where your treasure is, your heart is also." Andrew Frame, Burlington, felt that the potential benefits of such an arrangement outweighed any risk involved and that the additional cost of floating the issue would be negligible when distributed among the utilities.

A resolution endorsing a brief prepared by a joint committee of the O.M.E.A. - A.M.E.U. executive, to the effect that the terms of the Industrial Standards Act should not apply to the operations of the municipal electric utilities, was passed unanimously. The Act governs such factors as hours of work, minimum wage rates and holidays, in designated zones, for the electrical repair and construction industry.



Among the most contentious of the resolutions was one originating with London P.U.C. seeking an amendment to the Public Utilities Act "which would provide authority for utilities to hold and dispose of real property and all rights therein."

In explaining the background giving rise to the resolution, E. W. Curtis, London, pointed out that title to all London P.U.C. property is presently in the name of the City, which, he claimed, greatly complicated the commission's ability to

negotiate with other parties.

Supporting the ascendancy of municipal council over Hydro commissions, Mayor Charlotte Whitton of Ottawa said: "I don't think any municipality would support a proposal to make a body corporate of its Hydro commission. It would be like burning down the house to roast a pig. Let the commissions work out their problems with their municipal councils."



Mr. Curtis contended that as an elected body responsible to the people, municipal utility commissions should have the right to hold property. W. R. Tomlinson, Port Elgin, felt that the whole question of Hydro-municipal ownership was cloudy and that the resolution required further study. A motion by John McMechan, Toronto, that the resolution be tabled and a report prepared for presentation at the next annual meeting, was carried.

Similar action was taken with a resolution calling for clarification of the Statutes and Regulations of Ontario where they are concerned with Hydro debentures and the maximum borrowing permitted by a municipality. The resolution, as amended, also asked that the requirement for municipalities to list outstanding Hydro debentures when applying for approval for future borrowing be changed to require that self-liquidating debentures be listed separately.





*Amendments to the amendment  
are the rule as delegates get down to  
brass tacks on subjects of  
vital concern to the welfare of Hydro in Ontario*

In its original form, Mayor Whitton had taken sharp exception to the resolution which asked that Hydro debentures not be listed in determining the maximum borrowing power of a municipality. She contended that this would have the effect of increasing municipal borrowing power—a proposal which could endanger the credit of solvent municipalities already heavily laden with debt.

Mr. Frame considered the point of the resolution well taken in that Hydro debentures were self-liquidating. He believed that revenue from the sale of power and the ability of the utilities to raise rates if necessary were sufficient guarantee.

Delegates gave quick approval to a resolution submitted by Weston P.U.C. requesting that an O.M.E.A. committee be appointed to study and report on the question of ownership of service entrance equipment by utilities.

A resolution concerning expenses incurred by utilities in relocating facilities when streets and highways are being altered was also approved without dissent. Under present legislation, utilities are reimbursed to the extent of 50 per cent of the labor and labor-saving devices involved. The resolution asked that the legislation be changed to include the cost of materials.

On the grounds that no common

color and symbol exists which can be readily recognized by the public as identifying Ontario Hydro and the associated municipal utilities, a resolution was passed requesting Ontario Hydro to devise such a symbol. It requested, further, that Hydro advertising of every kind bear this symbol.



L. L. Coulter, Ottawa, felt that a unifying symbol was long overdue. He was backed up by a majority of delegates who approved the resolution, as amended.

Concerned lest some of the effectiveness of Hydro advertising be lost through lack of flexibility in meeting local requirements and circumstances, delegates approved a resolution asking that Ontario Hydro reserve a portion of the advertising budget for local promotion. This would be carried out in co-operation with municipalities on a regional basis.

At the request of the meeting, Alex Crate, manager, Advertising and Marketing Services, Ontario Hydro, attended to answer questions of delegates in regard to advertising. He explained that the province-wide program was intended as a foundation upon which a local program could be established by the individual

utilities. He also referred to the joint O.M.E.A. - A.M.E.U. Ontario Hydro Executive Committee, formed in 1962, which was now consulted in formulating Commission sales and advertising programs.

Two resolutions dealing with insulation for electrically heated homes also aroused active discussion. The meeting agreed to ask Ontario Hydro to study the feasibility of approving a thinner standard of insulation. This was felt necessary because four-inch wall studs, when dressed, did not provide sufficient cavity to install the required thickness of insulation.

The second resolution, also approved, called for a petition to have national building standards modified so that insulation requirements for all homes to be heated by electric energy be equivalent to the standards of the Electric Heating Association of Ontario. In the preamble, this resolution pointed out that the use of electric heating in an inadequately insulated home was a source of customer dissatisfaction.

Other resolutions approved at the 54th annual meeting dealt with changes in the constitution of the Association. They will provide (1) more time for members to review resolutions prior to the meeting, and (2) establish a President's Advisory Council to advise and report on such matters as the president might lay before it.

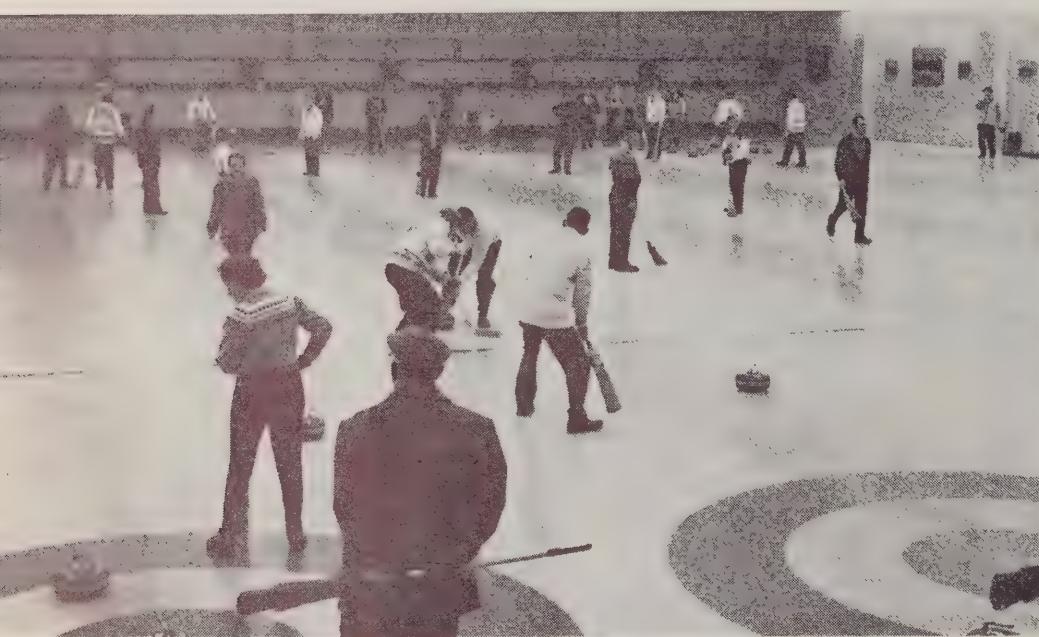




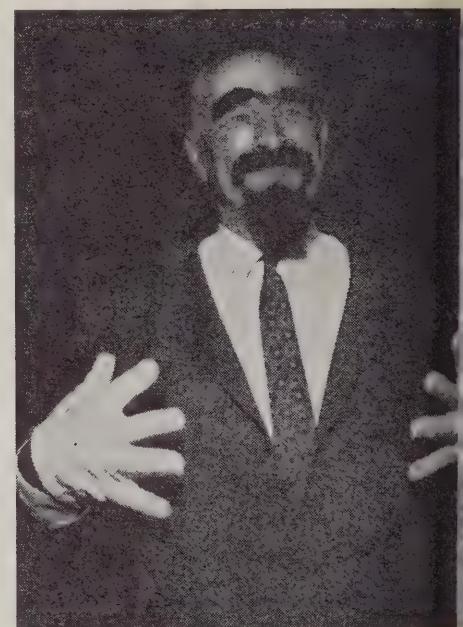
The convention also had its social aspects as this photo suggests. As well as the theatre, delegate's wives enjoyed tea at the Granite Club, a coffee party complete with door prizes, and a Rise and Shine breakfast. The ladies joined their husbands at regular convention luncheons and banquets.



New O.M.E.A. executive represents a wealth of municipal Hydro experience. Left to right, front row, they are: John McMechan, Toronto, executive vice-president; J. E. Wilson, Barrie; P. R. Locke, St. Thomas, past president; E. C. Dash, Sudbury, president. Back row: N. R. Craig, Burlington; R. S. Sheppard, Aylmer; E. J. Peplow, Sault Ste. Marie; and J. F. Edwards, Palmerston.



Rinks participating in O.M.E.A. - A.M.E.U. convention bonspiel have risen from 4 to 36 in five years. Rink representing Riverside P.U.C. took top honors at this year's event.



Delegates up for "Rise and Shine" Breakfast were invited to sing along with Ted Dash.



Attractive sales displays were a convention highlight. Group studying plans of all-electric Albion Grove subdivision are, left to right: J. R. McLennan, Brockville, Mrs. Andrew Frame, Burlington, Mrs. McLennan and Mr. Frame.



This group of Sarnia delegates takes time out at convention to catch up on news in Hydro News. From left are: E. W. Allen, Charles J. Spicer, Jack G. Church and Harry Luckins. Like most, they returned home with greater knowledge of Hydro, which has been called "Ontario's largest business."



## A VOICE FROM THE NORTH

### E. C. Dash Heads O.M.E.A.

In a fitting sequel to the financial integration of Ontario Hydro's northern and southern systems, which came into effect, January 1, 1962, the Ontario Municipal Electric Association has elected its first president from Northern Ontario.

He is E. C. (Ted) Dash, affable and dynamic Sudbury Hydro commissioner and past president of the Northland Municipal Electric Association. In a recent interview with Hydro News, Mr. Dash drew attention to the particular aptness of his election to the presidency at this time.

"Our O.M.E.A. District was one of the prime movers in seeking the financial amalgamation of the Northern Ontario Properties and the Southern Ontario System. By electing me, I feel that the delegates from Southern Ontario have been very kind in allowing the North an opportunity to repay some of the kindness and assistance they have given us since the O.M.E.A. was formed in 1912."

As the first northern member to head the association, Mr. Dash felt that his responsibility was even greater than was usual in this office. He said he would base his policy on the "four-way test".

"First, is it the truth?  
"Second, is it fair to all concerned?  
"Third, will it build goodwill and better friendships?

"Fourth, will it be beneficial to everyone?"

Mr. Dash has served nine years on the Sudbury Hydro Commission, including five years as chairman. His utility has promoted a vigorous load-building program and has established something of a record among municipalities of comparable size for the

number of electrically heated homes it has been responsible for obtaining.

Sudbury Hydro's service area was greatly expanded two years ago when McKim Township was amalgamated with the city. The utility now serves about 25,000 customers.

Born in Portsmouth, England, the new O.M.E.A. president came to Canada in 1913. After serving overseas with the Canadian Forestry Corps in World War I, he came to Chesley, Ontario, where he lived until 1930, when he joined the International Nickel Company at Sudbury. Today he is an electrical supervisor with the company.

His main hobbies are fishing for speckled trout—"I'm a worm dunker"—and singing in St. Andrew's United Church choir, of which he has been a member for 33 years. He is a member of the Sudbury Rotary Club and the Sudbury Shrine Club. Mr. Dash often leads sing-songs for club and O.M.E.A. meetings, and his hearty bass voice ensures the north a hearing whatever the gathering.

Elected executive vice-president of the O.M.E.A. was John McMechan of Toronto Hydro.

Vice-presidents elected included the following district presidents: E. J. Bryant, Whitby; J. E. Wilson, Barrie; N. R. Craig, Burlington; J. F. Edwards, Palmerston; R. S. Sheppard, Aylmer; E. J. Peplow, Sault Ste. Marie; J. R. Aiken, Fort William; and John Barnes, Sarnia. ■



Chief Engineer, Etobicoke Hydro

### JOHN TORRANCE IS A.M.E.U. PRESIDENT

A sound engineering background, enthusiasm and a full appreciation of the importance and techniques of safe working procedures in municipal utility operations are among the assets John A. Torrance, 38, brings

to the presidency of the Association of Municipal Electrical Utilities.

Stepping up from vice-president of the association to succeed Ronald Harrison of Scarborough as president, Mr. Torrance chief engineer, Etobicoke Hydro, is a past president of the Electrical Utilities Safety Association of Ontario. Speaking with Hydro News after his election, he said the A.M.E.U. will continue working with the Ontario Department of Labor to seek certain changes and clarifications of the Construction Safety Act with respect to the operations of municipal utilities.

He said the association would also continue the process of revision and review in developing manuals of recommended standards in the fields of street lighting, overhead distribution, underground system planning, sub-stations and metering.

Born in Toronto, Mr. Torrance graduated in 1948 from the University of Toronto in electrical engineering. The contribution made by this particular class to the municipal electric scene in Ontario is worth noting. His classmates included B. D. Fleming, manager, Toronto Township Hydro, W. H. Powell, manager, Peterborough Utilities Commission, and Frank Jannaway, chief engineer, St. Catharines P.U.C.

Mr. Torrance joined Etobicoke Hydro in his graduation year and was appointed to his present position in 1951. He has been active in A.M.E.U. activities for 10 years, and served three years as chairman of the Engineering Board. Last year he chaired the Operation Board.

The Etobicoke utility, one of the fastest growing in the province, serves a 42-square-mile area with a population of 170,000. Customers presently number about 55,000 and rate of population growth has been ranging between 10,000 and 15,000 annually—offering both opportunities and challenges in load building. The recent opening in the township of Canada's first all-electric subdivision is just one of the signs suggesting that this utility is really on its toes.

Elected vice-president of the A.M.E.U. was J. W. Hammond of Hamilton.

E. F. Burbank, Toronto; W. H. Little, Brockville; and C. W. King, Dresden, were chosen directors-at-large. ■



A special welcome was extended delegates from King City—a new member of Hydro family of municipalities. Left to right are: W. Ross Strike, Ontario Hydro Chairman; Percy Locke, O.M.E.A. President; John Mann and A. G. Cusdon of King City Hydro.



Safety was not neglected at the convention. Holding awards are George Watson, Oakville, second from left, and Ken Golding, Guelph. They are flanked by John Torrance, left, past president, and B. M. Graham, president, Electric Utilities Safety Association.

### ELECTRICAL INSPECTION REPORT

A special committee formed in answer to an O.M.E.A. resolution calling for a study of the electrical inspection service and fee structure in Ontario reported that faster service could only be achieved at considerable expense.

The report, presented by E. J. Bryant, Whitby, indicated that a schedule has been established for inspection in smaller centres and that more immediate service could only be achieved by adding to the number of inspectors. At present, 179 Ontario Hydro inspectors cover the entire province.

In view of the deficit at which the inspection service operates, the committee was reluctant to recommend this step. Mr. Bryant said he had been assured that a study of the present fee structure, now being undertaken by Ontario Hydro, would be made available to his committee. ■

### LOAD BUILDING

Evidence of the work of the Advertising and Sales Co-ordinating Committee of the O.M.E.A. was found on all sides at the annual convention and in the enthusiasm of the delegates for load building.

Speakers, too, reflected the overriding concern with this subject which provided the theme of the convention "Sales—The Key to '63". In presenting the committee report, Leonard Coulter of Ottawa pointed to the increased effort which had marked the current campaign and promised that the 1964 program would be worked out well in advance to give participating municipi-

palities every opportunity to fit their plans into the over-all promotional effort.

Highlights of the '63 program, as outlined, include:

- A home modernization promotion which will stress supplementary heating and improved wiring.
- Promotion of adequate lighting in the home, commercial and industrial buildings.
- Special emphasis on refrigerator-freezers and electric water heaters.
- An intensified bid for the construction of Gold Medallion homes, particularly in subdivisions. ■

### ON THE SAFETY FRONT

Among the many facets of utility operations highlighted at the recent O.M.E.A. - A.M.E.U. annual meeting—safety was not neglected. Four 1962 awards were made by the Electric Utilities Safety Association.

At the individual level, lineman George Watson, Oakville P.U.C., received the coveted National Safety Council President's Life Saving Award. He qualified by being first to apply artificial respiration to a four-year-old boy who had fallen off a Bronte pier. Watson and the P.U.C. crew, rebuilding lines some 150 yards from the scene of the accident, responded immediately to the boy's calls for help and pulled him from the water.

Kenneth Golding, an employee of the Guelph Board of Light and Heat Commissioners, qualified for membership in the Turtle Club by wearing a "hard" hat and thus avoiding death or serious injury. He was struck by a piece of cement knocked off an

adjoining building while he was digging a trench.

East York Hydro won the award for the "lowest compensable injury frequency" among utilities in the over 60,000 man-hour category. Similar recognition went to Kenora P.U.C. in the under 60,000 man-hour class.

Among the larger utilities, Chatham P.U.C. and North Bay Hydro were given honorable mentions for having successfully completed three consecutive years without compensable injury. ■

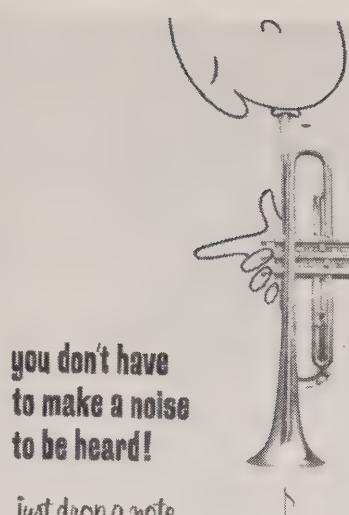
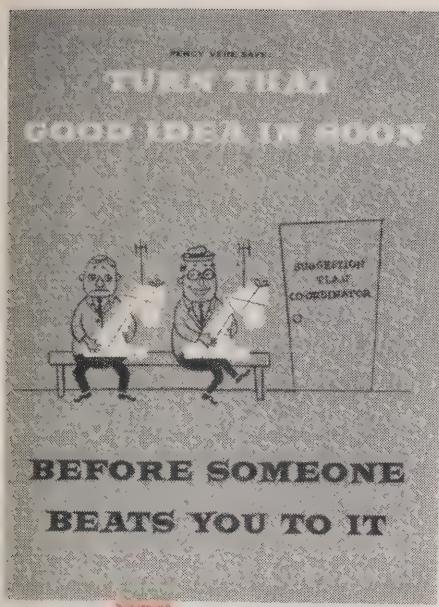
### PENSIONS AND INSURANCE

Because the number of utilities outside the Municipal Hydro-Electric Pension and Insurance Plan is getting smaller each year, expansion of the plan was less in 1962 than in earlier years, Bertram Merson told delegates to the 54th annual convention.

Mr. Merson, chairman of the Toronto Hydro-Electric System, has been secretary-treasurer of the O.M.E.A.'s pension and insurance committee since 1952. He was first appointed to the committee in 1946.

Three utilities, he reported, were new 1962 entries in Part I and II of the plan. These were Thornbury, Grand Bend and Alliston. He said that Stamford Township (since annexed by Niagara Falls) was a new entry in Part II (supplementary).

In summary he noted that there were 7,706 employees covered by the plan to the end of 1962, and that 692 were drawing pensions. The amount of life insurance benefit in force totalled \$45,123,590. ■



Just drop a note  
to the Suggestion Plan  
...the best place for good ideas



## DOLLARS FOR IDEAS

More than five years ago, in June, 1957, Ontario Hydro introduced a province-wide employee suggestion plan designed to stimulate the flow of money saving ideas and suggestions which were not part of the assigned responsibilities of the persons submitting them.

Induced to don their thinking caps, employees have enriched their own pocket books to the tune of \$70,000 since the suggestion plan was launched and reduced the Commission's cost of doing business by well over half a million dollars. And this is a bare minimum, calculated only in the savings made in the first year after the suggestions had been adopted. Many changes resulting from employee ideas will continue to benefit the Commission year after year.

Last year was the busiest and biggest year ever for the Hydro suggestion plan. Every two working days, 7 suggestions landed on the desk of

the plan's co-ordinator. More suggestions were made than ever before, more were adopted, more dollars were paid out, and more savings were effected. Awards made last year amounted to almost 50 per cent of the total paid out previously, and 1962 savings equalled 74 per cent of all prior savings. Since the plan commenced, more than 9,000 suggestions have been submitted and some 1,700 adopted.

Biggest change in the plan itself also took place during 1962, when the maximum award limit was raised from \$1,000 to \$2,000. Where the value of the suggestion adopted is of an intangible nature, the top award is \$100, while a minimum of five dollars is paid for acceptable proposals.

Money-saving ideas adopted run the gamut from obvious but overlooked innovations like switching from three-quarter inch "Scotch" tape to half inch tape, to more complex

changes such as a new method of installing hose and hoods on 8,000-volt conductors with the use of live line tools.

Other employee suggestions have had implications beyond the Hydro scene. A special award went to one employee who invented a power fuse tool to elevate and install or remove heavy fuse holders. His device has been patented in the United States and Canada, and it is being produced by a U.S. manufacturer. He will receive royalties for 17 years.

In addition to direct benefits in the form of readily apparent savings, the suggestion plan has tended to increase and improve the flow of communications between all levels in the Commission organization.

*Stimulating staff to production of money-saving ideas is function of ingenious posters, top, which are displayed throughout Commission premises across the province.*





## LINEMEN GO SPRING CLEANING

SPRING cleaning is all very well for the housewife who has learned to take it in her stride, but let's shed a tear for the Ontario Hydro linemen who, in recent years, have had this chore added to their duties—thanks to the fact that the air in some sections of the province is getting dirtier as industrialization progresses.

Insulators—those inconspicuous but vital pieces of non-conductive hardware separating the power-carrying conductors from poles and towers—are the objects in question, and some of them must be scrubbed down half a dozen times a year.

And aesthetics have nothing to do with Hydro's obsession with insulator cleanliness. It's a matter of service continuity and dollars and cents.

Aerial filth from many sources settles on the insulators and, unless washed away, it can cause damage and actually interrupt supply. Power leaks across the dirty insulator surface to the ground and, on low-tension wood pole lines, it is sometimes severe enough to cause poles. On 115 kv steel tower lines, this leakage can damage the expensive insulator strings.

As yet, insulator contamination is

serious only in certain areas, mostly in the Toronto, Hamilton, Niagara and Western Ontario sections, but the problem is becoming more acute each year as air pollution increases.

It's most critical at this time of the year and in the early fall, when moisture-laden fog and light, gentle rains can be expected. Contaminants build up during extended dry periods, and trouble can be expected when fog and drizzle occur.

Chief sources of air pollution are fumes from road and rail traffic, gases and other material from industry, dust in summer and salt wafted from the roads in winter by traffic, wind and snowploughs. In heavy density apartment building areas, incinerators are a source of contamination.

Over the years, Ontario Hydro has developed a cleaning technique which reduces outages caused by dirty insulators to a minimum but, as Jim Durand, Central Region line maintenance supervisor notes, more and more time must be allotted to this work just to keep even.

In Central Region, a two-man crew does the job with the aid of a ladder truck equipped with a tank holding up to 700 gallons of water. The

water is pumped out in a fine, powerful spray at a pressure from 900 to 1200 pounds per square inch.

The crew washes insulators on the 115 kv Regional network and on lines down to 27.6 kv in areas where air pollution is prevalent. Washing can be carried out in temperatures down to zero degrees Fahrenheit, and it goes on about two-thirds of the year.

Mr. Durand shudders to think what might have happened without the washing program during the heavy week-long fog and drizzle experienced in the Toronto area during last year's Grey Cup period. This is precisely the type of weather certain to bring trouble when aerial fall-out is permitted to build up on the insulators. Despite the fog's severity, there were no fires and only one insulator string on a 115 kv line was damaged.

Another procedure which has helped to prevent fires on wood pole lines is the wrapping of cross arms with bonding wire which picks up leaking current. By distributing it over a wider area heat intensity is reduced.

Outside the industrialized areas of the province, insulator contamination is not a serious problem except in certain locations. In one region, line crews remove about 135 insulators each year from lines near a cement plant. Acid is used to remove the heavy deposit.

Another example of the direct relationship between insulator flashover and the state of the atmosphere is to be found in the Georgian Bay area, where a wash truck is borrowed to clean insulators near a fertilizer plant. At the same time, it removes grime from insulators on lines in and around Barrie for the local Public Utilities Commission. And in the Northwest, insulators on tap lines to pulp and paper mills require frequent washing.

At a time when service continuity is becoming ever more vital as dependence on electric power continues to grow, the problem of contaminated insulators is assuming larger proportions. Cleaner air is the obvious solution. But that's just wishful thinking, for the present at least, and linemen are a realistic breed. So they'll go on washing while they're wishing. ■

# PROGRESS AND SERVICE—

*this utility's  
most important product!*



ROY S. (SMOKEY) REYNOLDS, general manager of Chatham Public Utilities Commission, has always been a man who matches words with action—whatever the subject.

In February, as he has done for several years, Mr. Reynolds reported to the people of Chatham through the columns of the Chatham News. Speaking for his commission, he said, in part:

"Progress is our most important product. This is the advertising slogan of one of the foremost electrical companies on the North American continent, and we of the Chatham Public Utilities Commission should endeavor to follow this way of living and working in our service to the people of the City of Chatham."

Mr. Reynolds was saying, in effect, that progress and service continue to be the watchwords of Chatham P.U.C. and that every employee

shares the responsibility of ensuring that a full measure of service is given.

Action matching these words came less than a month later when 140 Chatham P.U.C. employees and their wives met for dinner in the utility's R. S. Reynolds Service Centre—to examine their approach to customer relations.

The Chatham utility's annual staff dinner gives employees an opportunity to enjoy an informal evening together. But the commission, management and employees share more than just a social interest, and the program always includes some serious discussion about their utility in which all take part.

The commission ensures that no employee is prevented from attending through pressure of work. Operators who might normally have been on duty are replaced by spare operators, enrolled for the occasion from the electrical contractors of the city.



Public relations exhibit, opposite page, caught the eye of, left to right: J. A. Blay, Ontario Hydro's director of Public Relations; and Chatham P.U.C.'s A. E. Sterling, chairman; R. S. Reynolds, manager and secretary; H. G. Morrison and G. R. Newkirk, commissioners. In photo, left, Robert Dunlop, managing editor of the Chatham News, pays tribute to the utility for its service record. George Aitken, below, takes part in skit depicting "how not to handle customer calls".



Guest speaker this year was James A. Blay, director of Public Relations for Ontario Hydro, who told the meeting:

"I must admit that I am rather apprehensive about my ability to tell the people associated with Chatham P.U.C. anything new about the subject since your organization enjoys quite an enviable reputation in utility circles for proficiency in the various techniques of public relations."

But Mr. Blay offered a yardstick for determining when the ideal objective of excellent public relations has been attained:

"I am sure we all agree that the man in the street must gain the impression that our utility is a group of people serving him, and not just a collection of poles, lines and transformers. An ideal objective is attained when the utility becomes known as:

(1) The distributor of a safe, superior product at the lowest possible cost and under conditions of prompt service;

(2) A reliable custodian of public funds, responsible to and owned by the customers, and directed by an efficient, public-spirited management and staff, and

(3) An integral unit of the community which is regarded as neighborly, approachable, and conscious of human values as well as dollars—an organization making a positive contribution to the community's economy, health, safety and welfare."

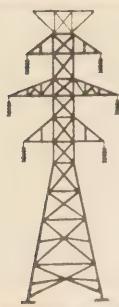
Seven members of the Chatham utility's staff took a leaf out of R. S. Reynolds' own book, when they matched Mr. Blay's good advice with some action of their own. The action: a whimsical but meaningful skit illustrating how lack of telephone courtesy can damage an otherwise good effort in customer relations.

The reaction of newspapermen to the dinner and the subject is worth noting. Several attended the function, and Robert Dunlop, managing editor of the Chatham News, probably reflected the views of other press representatives when he commented:

"Functions of this sort are all too uncommon in the city of Chatham. There are many other companies who are envious of the reputation Chatham Hydro has in terms of the day to day service it provides, and I think you are much to be congratulated."

Mr. Dunlop said his paper had little criticism to offer concerning Chatham P.U.C., but warned that the press and others are always watching the performance of the utility and its employees.

No cause for alarm, it seems certain, for a utility which believes that progress and service are its most important products. ■



# along hydro lines



*A taste of showbusiness is enjoyed by Barney Graham, manager, North Bay Hydro, following premiere of Recipe Roundup on CFCH-TV. He is flanked by Meri Craven, left, and Gwyn Reed.*

## Hydro's Recipe Round Up

An April Fools' Day introduction to a new Hydro series of 20-minute recipe presentations on CHCH-TV, North Bay, will never be forgotten by viewers.

"Hydro Recipe Round-up," as the presentations are called, started its 13-week schedule on April 1, when CFCH radio and CFCH television staffers switched roles for the day. Meri Craven, on whose women's television program Hydro Recipe Round-up appears, was portrayed for the afternoon by a burly radio announcer in appropriate costume. Other program shenanigans included the appearance of a disembodied female arm, borrowed from a mannequin, which mysteriously plopped on the desk in front of the newscaster.

And the television station's receptionist appeared on camera briefly to introduce Gwyneth Reed, Hydro's home service consultant.

In keeping with the Easter season, Miss Reed demonstrated an easy Easter bunny cake, prepared a cherry-almond sauce for ham, and whipped up some apple foam in an electric blender.

Ontario Hydro hopes to arrange a second recipe round-up series for presentation during the year on a TV station elsewhere in the province. ■

## \$2 Million Equipment Display

Even bigger and better than the 1961 Scarborough event that inspired it, the A.M.E.U. Equipment Display, being held at Niagara Falls, May 15 and 16, will bring together about \$2 million worth of equipment.

To be held at Ontario Hydro's Conference and Development Centre, the show will feature demonstrations of equipment of specific interest to municipal utilities.

Commenting recently about the show, R. S. Coles of the A.M.E.U. said:

"This is probably the most efficient way for the utility man to keep abreast of what's new, and it affords an excellent chance to chat informally with people in similar jobs who have had experience with specific machines."

Some 40 exhibitors will be participating, and attendance is expected to exceed 400 utility personnel from across the province.

## MUNICIPAL BRIEFS

**Sarnia Hydro** is preparing drawings for a new work centre to be located on a five-acre site on Confederation Street. Construction will start shortly. The building will have facilities for line, substation maintenance, vehicle maintenance and forestry crew as well as meter repair and stores material. Cost of the building itself is estimated at \$300,000, and it will have approximately 31,000 square feet of floor area. Heating and air conditioning will be completely electric.

**Village of Belmont** ratepayers recently voted to form a three-man Hydro commission and approved a \$55,000 debenture issue to cover the cost of distribution plant owned by Ontario Hydro.

"**You never miss Hydro till the lights go out**," say the Prescott Journal in commanding the local utility for quickly restoring power. "How true that statement is was proven last Wednesday morning when Hydro wires, overburdened with freezing rain, plunged a large portion of the town into a blackout. The Utilities Commission did a wonderful job in getting industry and commerce back into production with temporary lines until permanent repairs could be made."

All six substations in the Ingersoll P.U.C. system are now being metered through a single instrument.

**Village of Plantagenet**, near Hawkesbury, is considering purchase of the distribution system from Ontario Hydro at an estimated cost of \$46,131.

**Sudbury Hydro** is among the latest utilities to acquire a line truck with crew compartment and corner mounted rotating derrick.

**Ontario Hydro** has approved a reduction in the electric home heating rate for its rural suburban class of customers from 1.25 cents per kilowatt-hour to 1.1 cents. Rates for suburban customers, which include groups of 100 customers or more where the density is at least 12 customers per quarter mile of road or street, had previously been reduced from 1.35 cents to 1.25 cents per kilowatt-hour.

**Orangeville Hydro**, which shares the municipal building with other departments, plans to construct

a new office and stores building. The building would be financed from the proceeds of a \$30,000, 20-year debenture issue.

The newly-formed Electric League of St. Thomas recently honored P. R. Locke, past president of the O.M.E.A. and vice-chairman of St. Thomas P.U.C. "for the valuable contributions he has made to the electrical industry as a whole over the past quarter century." He was presented with Medallion cuff links and tie clip at the first general meeting of the St. Thomas League. W. J. Underhill, manager, St. Thomas P.U.C., is first chairman of the League.

**East York Hydro** is making an annual award of desk lamps to the two top students in the elementary division of the Ontario Public Speaking Contest. It is presenting other winners with illuminated alarm clocks.

**Acton Hydro** has established an exchange policy for customers with electric water heaters which are no longer sufficient for their hot water requirements. Under the plan, the value of the old units is based on a depreciation of 20 per cent for the first year and 10 per cent for each additional year. Cost of the larger unit is the installed price less a regular installation allowance and the depreciated value of the old unit.

## Hydro Veteran J. W. Duffy Dies



A.M.E.U., held recently at right in this photograph receiving an O.M.E.A. long service award presented by Ontario Hydro Chairman W. Ross Strike at the convention.

Born in Hamilton, Mr. Duffy had lived in St. Clair Beach for 30 years. He was employed by the Bell Telephone Company for 48 years, retiring as buildings and vehicle superintendent in 1959.

He was a member of the Holy Name Society at St. Gregory's Parish, and of the Tecumseh Council, Knights of Columbus. Among the survivors are his widow, the former Mary Normalie, one son and two daughters.

## London P.U.C. Chairman Dies

J. Stewart Killingsworth, chairman of the London Public Utilities Commission, died recently after a lengthy illness. He was 46 years of age.

Mr. Killingsworth served on the commission since 1954 with the exception of 1961, when he did not

seek re-election because of ill health. Active in O.M.E.A. affairs, he was president of District 7 in 1956.

A former alderman, Mr. Killingsworth was president and director of the E. C. Killingsworth Funeral Home, established by his father who served nine years on city council. He was a director of the Catholic Culture Centre, past president of Irish Benevolent Society, and a member of the Knights of Columbus.

He leaves his wife, the former Erdyne Anne Faust, a son and two daughters.

## LOAD-BUILDING



This year's spring "Hydro Special"—a province-wide campaign designed to focus attention on modern improvements in food storage unit, was recently previewed by manufacturers and dealers at the Westbury Hotel in Toronto. The campaign will run from May 18 to June 29, during which time each buyer of a qualifying refrigerator or freezer from a participating dealer will get free an electric hair dryer.

Although present saturation of electric refrigerators in Ontario is 98 per cent, the average refrigerator is nine years old and has a capacity of only seven cubic feet. And only 16 per cent of Ontario families enjoy the advantages of a separate home freezer.

In the photograph, Jack Brown, Hydro appliance sales officer, tries a hair dryer hood for size on Mrs. Anne Doidge. Looking on, left to right, are: Jerry Teunissen, Amana Ltd.; Emerson Pickett, McClary-Easy; George Heathfield, Eatons' and Joseph Weston, Simpson-Sears.

## A.M.E.U. Gavel of Office

John Torrance, centre, newly-elected president of the Association of Municipal Electrical Utilities, receives the gavel symbolic of presidential authority at a small dinner party in his honor. Making the presentation on behalf of E. C. Dash, president of the Ontario Municipal Electric Association, is Dr. V. S. Wilson, chairman of Etobicoke Hydro and past president of the O.M.E.A. B. D. Fleming, manager, Toronto Town-



ship Hydro, adds his congratulations. Mr. Torrance is chief engineer of Etobicoke Hydro.

Commenting on the appointment, Dr. Wilson said that while work on technical committees of the A.M.E.U. might be considered to take time away from township Hydro affairs, it was his experience that such time was always amply repaid in new ideas and outlook which were reflected in better service to Etobicoke customers. ■

## Orators Win O.M.E.A. Awards



Among the most pleasant of the duties befalling District 4 O.M.E.A. President John McMechan is the presentation of trophies to the Metropolitan Toronto zone champions of the Ontario Public Speaking Contest. Mr. McMechan is shown here with Marilynn Minaker, Scarborough, and Melville Thompson, Weston, co-winners in the Elementary School contest. District 4 O.M.E.A. also supplies cups to Secondary School winners in the prepared and impromptu categories. Results of this year's final will appear in Hydro News, in May. ■

## LETTERS to the editor

Dear Sir:

On March 27th, the Toronto newspapers carried statements by representatives of the Consumers' Gas Company, Canadian Gas Association and others, concerning the "on-site generation of electricity by gas

turbine or reciprocating engines".

It was reported that Ontario Hydro is to face direct competition from Consumers' Gas Company which says it is prepared to offer gas-generated electricity. Mr. Dana Price, consulting electrical engineer of Houston, Texas, speaking at a Consumers' Gas seminar, is quoted as saying "Gas companies soon will be pushing the sale of electric ranges."

This raises some interesting thoughts. Does the Gas Company believe that it would be in a stronger position to convert gas energy into electricity so that it can be consumed in electric ranges rather than to supply gas directly to gas stoves? This comes fairly close to admission of something that most of our customers already know, that electric ranges are both lower in cost and considerably more desirable than gas stoves.

Gordon McHenry,  
Ontario Hydro.

\* \* \*

Dear Sir:

Your article on the old street cars in Toronto reminded me of something I wrote nine years ago this month when the old Yonge Street trolleys departed and we started the new subway from Union Station to Eglinton Avenue. . .

I thought I would try to make the Yonge Street car say a farewell, hoping the millions would remember, but newspapers and magazines have no souls are in too much of a hurry. They are all going somewhere as fast as possible, oblivious that the journey may be more pleasant than the swift arrival. So the manuscript has laid filed away for nine years until your February issue brought nostalgia again.

Mike Caveney,  
Hydro pensioner.

*Editor's note:* We, too, must hurry on our way, but not so fast that we cannot reproduce the concluding stanza of Mr. Caveney's rather lengthy farewell by streetcar.

"Yet, very close to my sad heart, tonight,  
Sits the aged couple, symbol of happy marriage,  
Time scarred with the storms of circumstance,  
The enduring granite of all our social life,  
Blue tracery of thin veins, as her mottled han  
Clasps his for more support on one more journe  
Until at last, like me, they reach oblivion."

Post Script: For the many who have commented on the article, we note that the last street car in Los Angeles has since made its final run, reducing to seven the number of North American centres where the species is still on the prowl.

\* \* \*

Dear Sir:

Each time Ontario Hydro News reaches me I think I should write and tell you it is one of the best and most interesting of the very many that cross my desk.

I have just read another issue. It must be satisfying to you to put out such a product.

A. Wheeler,  
Bank of Montreal.

# OFF THE WIRES



Last month in these columns we had something to say about Hydro employees and their willingness to perform above and beyond the call of duty whenever the need arose. This time we have word, and photographic evidence, of an even more dramatic situation which enabled Hanover P.U.C. employees to test their mettle in an emergency.

When the rampaging flood waters of the Saugeen River swept an elderly motorist off the road he was rescued in the nick of time by P.U.C. men, who waded into the torrent and secured him with a rope. One of the rescuers, Ivan Wren, was swept off his feet by cakes of ice and narrowly escaped with his own life.

In the words of P.U.C. secretary-treasurer Roy Hamer, "These men acted with the competence and courage usually found in Hydro employees in situations of emergency, and the local commission are justly proud of their efforts."



Our hat remains doffed to Mr. Underhill, manager of the St. Thomas P.U.C., whose ingenious

and effective advertising efforts have attracted comment from afar. "Something just a little bit different" seems to be his philosophy, and the utility's recently developed "paid" stamp seems entirely in keeping with this kind of thinking.

A Canadian five cent stamp currently in use commemorates the 150th anniversary of the birth of Sir Casimir Stanislaus Gzowski and, if this writer is an example, stamps of this kind are serving a purpose. It prompted us to remedy our ignorance of the above-mentioned gentleman and to learn something about a most worthy Canadian.

Gzowski was one of the many refugees from the unsuccessful Polish revolution of 1830. In Canada, where he made his home, he became a highly successful engineer and was involved in the construction of the St. Lawrence and Atlantic Railway. He also built the Grand Trunk Railway from Toronto to Sarnia.

But Gzowski is best remembered for his work at Niagara, where he built the International Bridge and designed the famous system of parks that line the Canadian shore. Through these, he will continue to bring beauty and enjoyment to Canadians down through the years.

We like the custom of issuing commemorative stamps honoring

those who have made important contributions to the Canadian scene. All too often, through our preoccupation with famous people from abroad, we allow our own benefactors to slip quietly into oblivion.

No doubt the sight of Hydro's great Sir Adam Beck Niagara No. 2 plant has evoked various emotions in those visiting it for the first time but few, we think, have been inspired to song. Not so with George Bailey, the singing bus driver from Niagara Falls, whose latest composition is entitled, appropriately enough, "Niagara Falls". Mr. Bailey, whose song recounts the history and course of the river, has had it copyrighted and hopes to record it shortly.

He told members of the Niagara Development Committee recently that he got the inspiration for the song when he took a group of school children to the power plant and witnessed an Ontario Hydro film.

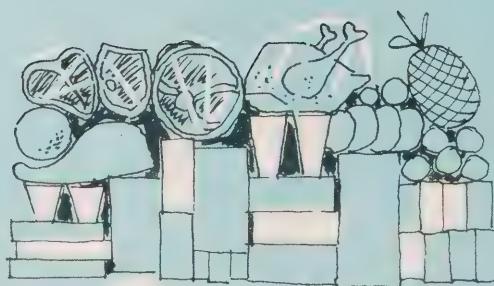
Bulb snatching, we hear from a usually reliable source, is at an all-time low, but fuse snatching in supermarkets is on the upturn. It seems some people have taken to removing good fuses from the cards on which they are sold and replacing them with old useless fuses.

Small potatoes, perhaps, but an unfortunate soul victimized by these penny pinchers could well be excused, in the event of an emergency, if he blew all of his fuses.

"Falsies" are dangerous in more ways than one if we can credit the findings of the fire chief of Jackson, Michigan. According to the chief, rubber padded brassieres have been the cause of three fires in one week. It seems these rubber-based garments retained the heat generated in the automatic drying process and set fire to other clothing in the laundry basket. He blamed spontaneous combustion. ■

Harriet, Denrell!  
Where on earth did  
all . . .  
Yes but it's . . . or . . .  
melting . . .  
I know, dear, but we . . .  
or . . . could have waited  
until . . .  
It's very thoughtful of  
you, but we just haven't  
anywhere to . . .  
Yes, but was it really . . .  
Well . . . or . . . yes . . .  
we . . . er . . . must get . . .

Don't worry dear . . . I  
saved a mint . . . bulk  
buying, you know!  
Think of the variety we'll  
always have on hand . . .  
you've always wanted . . .  
It'll cut down shopping  
trips like mad . . . We'll  
save lots of time . . . and  
always have something for  
unexpected guests.  
Cut food bills, dear!



...and I'll get a free  
hair dryer with the freezer!



1961  
MUNICIPAL  
DEPT.  
CITY OF TORONTO

May 18 to June 29.

A FREE deluxe hair dryer with the purchase of  
any chest type freezer, upright freezer, or  
refrigerator with a zero-zone freezer section.  
It's another shining example of co-operation  
between Ontario Hydro, Municipal Electrical  
Utilities, Manufacturers, Distributors and  
Dealers . . . already reflecting a promise of  
lasting benefits all 'round.

Another  
**hydro**  
Special

FOR DEVELOPMENT OF VEHICLE HYDRO-ELECTRICITY

ONCE AGAIN

ONCE AGAIN

ONTARIO

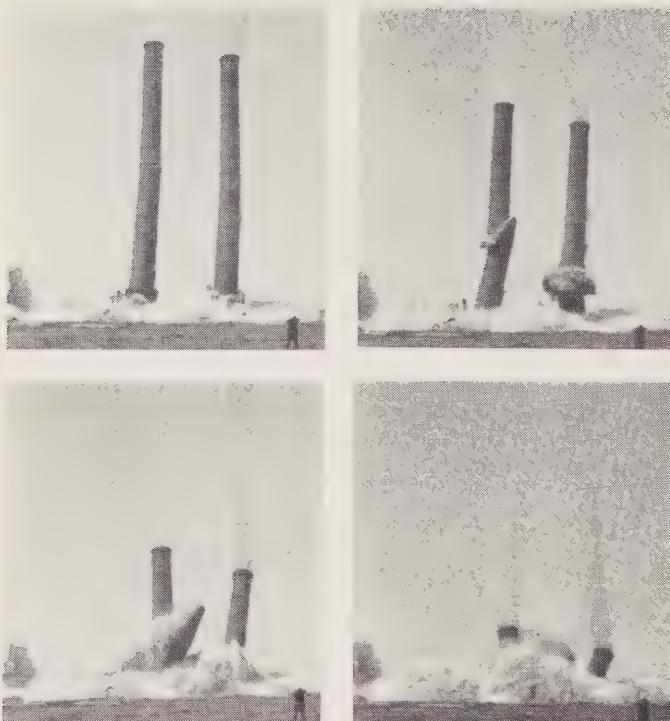
# HYDRO NEWS

MAY, 1963

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UNIVERSITY OF TORONTO



## GOING . . . GOING . . . GONE

If navigators are puzzled by certain omissions in the Hamilton skyline next time they enter the harbor, they might find the answer on their charts. Missing are twin, 275-foot smokestacks which had served as landmarks for nearly half a century.

They were reduced to rubble recently by 100 pounds of explosives placed in drill holes at the base of the stacks. The photos record their demise.

Along with the bricks, the blast erased another chapter in the history of electric power development in Ontario.

The stacks belonged to the old Dominion Power and Transmission Company's steam plant built at the south end of Hamilton Bay in 1916. During the last war the plant's two, 10,000-kilowatt units were sold to the Polymer Corporation of Sarnia to speed up the production of essential synthetic rubber.

But the old plant wasn't through. At the height of the post-war expansion period, when Ontario Hydro was hard pressed to meet the mushrooming demands for power, the Commission installed two, 5,000-kilowatt steam turbine units in this station as part of a crash program which included similar temporary installations in existing buildings at Thorold, Chatham and Toronto.

In the case of the Hamilton plant, its usefulness ended for Ontario Hydro in 1954, at which time the units were sold and shipped off to Pakistan under the Colombo Plan. ■

MAY, 1963

## ONTARIO HYDRO NEWS

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### THE COVER

As modern as tomorrow the Highland Apartments in Port Credit, captured in unusual perspective for our cover by Staff Photographer Harry Wilson, go back to grandmother's day insofar as the heating principle is concerned. More details of this ingenious adaptation of an old-fashioned heating device to vertical living appear on page 11 of this issue.

### HYDRO NEWS, VOL. 50, NO. 5

Editor: Don G. Wright.

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# WILDCAT RIVER ON A LEASH

by Bob Morrow

*Hydro engineers left little to chance*

*in penning up the unpredictable Mattagami River during the spring freshet to fill the headpond at the Little Long hydro-electric project.*

*Careful planning paid off in proving the effectiveness of Hydro's longest dyke and a 21-mile creek diversion that will save thirteen million dollars.*



ONTARIO Hydro forces won a tr of strength last month with the "flashy" Mattagami River in the Northern Ontario wilderness. The river, notorious for its unpredictable spring rampages, was embraced five miles of dykes and dams to form a placid headpond at the Little Long hydro-electric project, 42 miles north of Kapuskasing.

The headpond flooding marked an important step toward completion of the \$48,000,000 project which is scheduled to deliver initial power early October. In November the new generating station will be supplying its full output of 121,600 kilowatts.

Little Long is the first of three hydro-electric stations to be built on a 15-mile stretch of the Mattagami which will provide a total of 383,000 kilowatts by 1966.

As the river backed up behind the Little Long dam, excess water flowed for the first time down the 21-mile Adam Creek diversion and re-entered the Mattagami downstream from the Harmon and Kipling sites.

Hydro estimates the diversion will save about \$13,000,000 in reduced sluiceway construction and cofferdam costs at the other Mattagami plant. In addition, it will increase the power potential by reducing the tailwater level at all three stations.

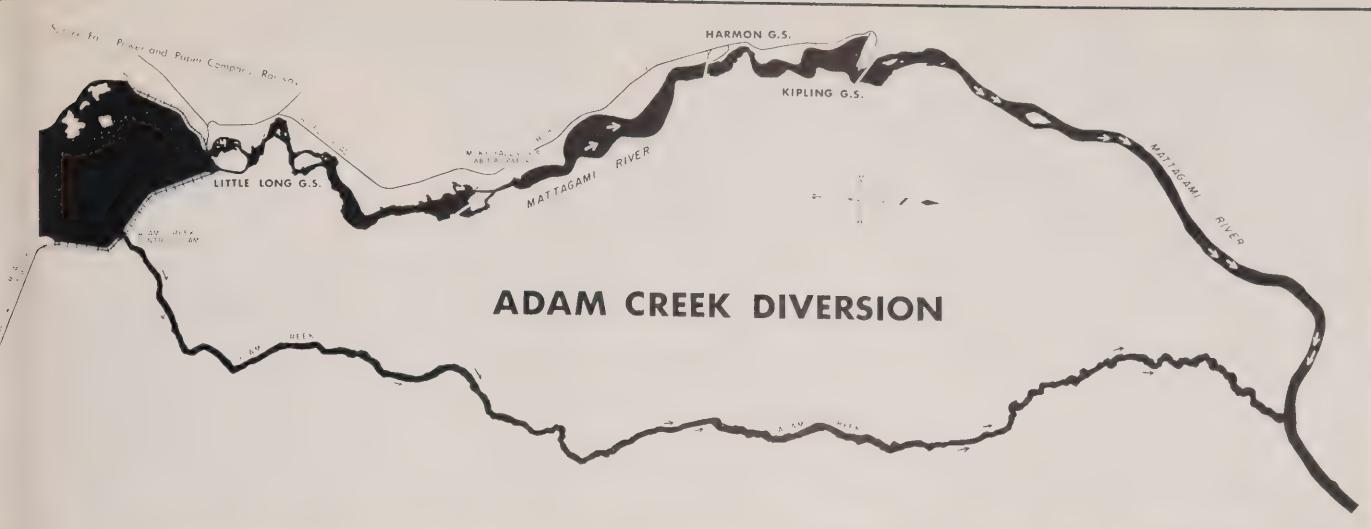
Hydro engineers timed the headpond filling to coincide with the spring freshet in order to store sufficient water for future operations. The flooding procedure, laid down in minute detail to prepare for an eventuality, was based on three rules:

- Let only enough water through the main dam to supply the needs of the Smoky Falls Generating Station, owned by Spruce Falls Power and Paper Company, and at the same time protect the cofferdams which have been built at the Harmon project. Both are downstream from Little Long.

- Break in Adam Creek slowly by gradually increasing the flow through the 850-foot control structure at the outlet.

- Protect the Little Long dykes, the longest ever built by Hydro, by limit-

*A small section of the big new headpond at Little Long Rapids is visible, top photo, behind the main dam and powerhouse. A quiet brook prior to the flooding, Adam Creek, centre photo, meandered its way for 2 miles past the Harmon and Kipling sites before entering the Mattagami. Torrent in lower photo is the same stream as it appeared shortly after headpond level was raised.*



g the water pressure until they proved their effectiveness.

"Operation Headpond" was carried off without a hitch like a well-executed military operation. Everything was in readiness by April 16, when the diversion port gates were closed, and the water began to rise. A control centre, set up in the resident engineer's office, had either telephone or radio links with upstream and downstream plants, the weather bureau, sluice gate operators and other affected groups.

Trash booms were installed to keep debris away from the Adam Creek and main dam sluices. Hydro boats patrolled over the water, their crews

alert for trouble. In the air, two helicopters patrolled Adam Creek to report log jams and chart erosion patterns by radio.

Observers patrolled the dykes in jeeps to check the level of nearly 100 piezometer wells sunk on the dry side to assess seepage and ground water pressure. They kept watch for possible trouble spots while a dyke repair crew stood by for action.

Many years ago Adam Creek was a Mattagami channel that did not erode as much as the present riverbed. It became a meandering stream, rising a quarter mile from the river and draining a local area. When the water was raised and diverted through the eight-sluice control structure, the creek became a river channel once again.

Hydro had removed trees and brush along part of the creek to improve the channel. By stepping up the flow of

water at top of page illustrates how Adam Creek was utilized for multi-million dollar diversion. Group photo shows control centre set up with radio and telephone communications to all parts of project. From left are: Survey Greer, Don Harkness, George Johnson, Jack MacGregor and Wolf Jenkner. Nearly 100 piezometer wells like one at right were sunk in dyke to assess seepage.

water gradually, engineers plan to control erosion until the water itself carves a satisfactory diversion channel. Development of the channel is expected to continue for several years.

The Little Long headpond was gradually raised to an elevation of 640 feet and, according to plan, held there to test the dykes. Then it was slowly raised to within a few feet of the 650 mark, the final elevation.

Much of the equipment has been installed in the Little Long powerhouse in preparation for bringing the new station into service in the fall,  $3\frac{1}{2}$  years after the start of construction.

As waters from the headpond, as large as a 30-square-mile lake, gush through the penstocks to spin the turbines, power will flow to the new Pinard Transformer Station near Abitibi Canyon at the northern end of the Extra High Voltage line. ■



*A persistent finalist in the Ontario Public Speaking Contest, Murray Taylor of Rockwood is interviewed by writer Joan Allen for a clue to modern teenage thinking. Raising prize Wyandotte Bantams for show, opposite page, is just one of many extra-curricular activities of this live-wire high school student who still puts his studies first.*

THE world has always been concerned, and seldom pleased, about the apparent destination of the younger generation.

During the past few years, however, teenagers have been subjected to unprecedented analysis and criticism, occasionally bordering on hysteria. And champions of the younger generation are often just as vocal as the critics.

Are modern teenagers any worse—or any better—than scores of teenagers in the past? Or is the criticism nothing more than traditional adult disparagement of the changing times?

The annual Ontario Public Speaking Contest finals, sponsored jointly by the Ontario School Trustees' and Ratepayers' Association and Hydro, seemed an ideal opportunity for research into the subject. Every year, about 40 public speakers, more than two-thirds in their teens, converge on Toronto during Easter vacation to compete in the contest finals. They are selected, in local and district contests, from some 200,000 elementary and secondary school students throughout the province.

Typical of teenagers in general?

Perhaps not, but they certainly qualified as articulate and thoughtful spokesmen for their generation.

For a clue to the thinking of a contest participant we interviewed Murray Taylor at his Rockwood home, near Guelph. Murray, at 17, is a veteran of the Ontario Public Speaking Contest. As a Grade VII student he placed second in the 1958 elementary school finals, and he has participated in the last three secondary school finals.

Last year he took second prize in the prepared speech section. Now a Grade XII student at the John F. Ross Collegiate and Vocational Institute in Guelph, Murray once again sailed through school and district competitions, but met stiff competition in the finals and failed to place.

In spite of his extensive public speaking experience, in contests and at meetings and conferences, Murray can appreciate the butterflies-in-the-stomach feeling novice speakers suffer.

"I was only eight years old when I won my first contest, and speaking in front of hundreds of adults didn't faze me a bit. But since I've been in high school, I've noticed that every

year I have to work a little harder to overcome self-consciousness. It must be terrible for teenagers or adults who have never been in front of an audience to give a speech for the first time."

"Public speaking contests such as this one, speaking before groups, and debates all provide invaluable training for young people," Murray feels. "In fact, people should start public speaking in Grade I, by reciting a verse or telling a story. By the time they're grown up, they'll be able to take part in meetings and conferences without dying a thousand deaths."

Public speaking is by no means Murray's only extra-curricular activity.

For one thing, he raises Wyandotte Bantams, and shows them at agriculture fairs and exhibitions in Ontario. Currently he has a flock of about 200, housed according to size in a three-decker brooder in the basement of his home, in a poultry shed immediately behind the house, and in the barn. Eggs, with the anticipated variety pencilled on the shell, are hatched in an incubator, also in the Taylor basement.

Murray credits his interest in Wyandotte bantams to his father, Frank Taylor, who raised Wyandotte as a young man. Now retired, Mr. Taylor, and his family, moved from their dairy farm to Rockwood five years ago, but retained several acres of land. One acre Murray uses for cultivating raspberries, which he sells every year for spending money.

More than a year ago, Murray became the Rockwood area correspondent for the Guelph Mercury. During busy periods, such as before an election, he may cover three and four evening meetings a week, and submit the story to the Mercury editorial offices before school the next morning.

On the theory that newspaper correspondents should be photographers as well, Murray invested in a good camera several months ago. As well as taking photographs for the Mercury, he has developed a thriving sideline in wedding, baby and banquet pictures, with some advertising photography thrown in for good measure. At the moment Murray shares a friend's darkroom, but his ban-

*To find out, Hydro News did a little research into the life of a typical teenage participant in the Ontario Public Speaking Contest.*



is the younger generation really  
**GOING TO THE DOGS?**



*As these photos suggest, Murray sees no incongruity between his love of sports and his appreciation of good music. He plays violin in a small orchestra and third base on a local championship baseball team.*

account is earmarked for a photo enlarger and, eventually, a darkroom of his own.

In between assignments, Murray plays violin with the "Gospel Messengers", a Youth for Christ group which tours the province, and third base for the Centre Inn baseball team, which won the Eramosa Township championship last season.

He's also photographer for his high school's monthly newspaper, vice-president of the Students' Council, and chairman of the students' Save the Children Fund, which has been supporting two refugee children for the past three years.

After Grade XIII, Murray plans to go to university, and is seriously considering a career in journalism. "I think most teenagers in their last two or three years of high school think a lot about their future careers, trying to find something they'll be happy doing. I'd like to do something where I can do some good for someone, besides making money, of course.

"Teenagers who drop out of school are probably dazzled by the thought of a pay cheque and the car it will

buy. And their parents' attitude has a lot to do with it, too. If parents take an interest in their children and encourage them to do well at school, I think the kids will finish at least Grade XIII.

"The value of an education and the types of jobs which are available, are certainly emphasized and explained often enough. It's really all up to the individual.

"The same thing applies to the usual adult comments about kids being spoiled today," Murray feels. "Parents, my own included, often say that they had to walk three miles to school, and chop wood for the stove, and so on. What do they want us modern teenagers to do—walk three miles when we can ride the school bus? Buses and furnaces were invented so that people could have more time for worthwhile things, things they liked doing. A person's character and personality are what decide whether he'll use a spare moment to advantage, or waste it."

What does a 17-year-old boy think about the world in general?

Murray's comments:

On politics—"Minority government

could work in Canada, if members of Parliament would, or could, work for the country rather than for the party."

On Cuba—"Kennedy's blockade was a wise move. Russia is trying to take over the world without war, and they had to be stopped sometime."

On nuclear arms—"I don't think Canada should take a stand against defensive weapons which would counteract the threat from Russian bombers. If the Russians start a nuclear war, and I don't think they will, no weapons would be of any use."

On American investment in Canada—"It would be better, of course, if there were fewer United States industries in Canada, but there's just not enough money in our country to do all the necessary development ourselves."

On girls—"I like them, I date them, but I don't go steady."

Murray is only one of the many thousands of teenagers who are being assisted toward maturity and self-confidence through the Ontario Public Speaking Contest. But if he is typical, can we truthfully claim that we had more on the ball when we were seventeen? ■



Proud winners in the elementary school category accept trophies and congratulations from Ontario Hydro Chairman W. Ross Strike at the finals in Toronto. From the left the youngsters are: Melville Thompson, Weston, second; Laurent Leduc, Woodbridge, first; and Philip Downey, Carp, third.



Niagara Falls' Gerald Rosberg, centre, took top honors among secondary school students in the highly competitive impromptu contest. He is flanked by Douglas Long, Brooklin, second, and Vivian Schulman, Cornwall, whose third-place standing helped faltering female prestige in the art of public speaking.



It's a long way from the preliminaries to the finals in all categories, and this happy trio outlasted the competition to win the secondary school prepared speech section. From the left are: Krysia Jarmicki, Toronto, second; Donald Warren, Port Credit, first; and Jack Briscoe, Killaloe, third.

## public speaking champions

It's a man's world, as far as the Ontario Public Speaking Contest is concerned.

Seven boys—and only two girls—won prizes this year in the contest finals co-sponsored by the Ontario School Trustees' and Ratepayers' Association, and Ontario Hydro. In competitions during the past few years, girls have taken only three or four of the top nine annual awards.

The finals for all three contest sections—elementary school, secondary school prepared speeches, and secondary school impromptu speeches—were held simultaneously this year, instead of on separate evenings as in the past. Cash awards and trophies were presented to winners at the O.S.T.R.A. annual banquet the following evening by W. Ross Strike, Q.C., Chairman of Ontario Hydro.

All finalists received a certificate of merit and a day-long trip to Niagara Falls as guests of Ontario Hydro. They toured the Sir Adam Beck-Niagara Generating Station No. 2 in the morning, ate lunch in the Sheraton-Brock Hotel in Niagara Falls, and visited many points of interest around the Falls during the afternoon.

Electric heating is in step with the tre



# VERTICAL LIVING

by Joan Allen

THE post-war stampede to the suburbs of Ontario had to slow down eventually. There is a commuting distance beyond which even the hardiest suburbanite refuses to budge.

When urban living started regaining its pre-war appeal a few years ago, the supply of lovely old homes—with and without plumbing—was soon depleted, and downtown residential property values sky-rocketed. Ontario builders responded to the need for more economical use of land by erecting multiple-family dwellings to house more people in smaller areas. Apartment blocks, duplexes and triplexes, began vying with bungalows as the ideal urban residence.

A few statistics show the extent of this latter-day trend to vertical living. In 1948, multiple-family dwellings comprised only 11 per cent of all residential construction started in that year in Ontario. By 1962, this figure had climbed to 47 per cent. In other words, nearly half of all residential construction started in Ontario last year was multiple-family dwellings.

Suburbanites following the current trend back to town are finding apartment living has undergone a transformation. Among its blandishments, in addition to geography, are swimming pools, playgrounds, air conditioning, entertainment areas, heated garages and wall-to-wall carpeting.

A more fundamental change is the use of electric heating, which allows each tenant to dial the temperature he finds most comfortable, in every room of the apartment. The days of relying on the building superintendent as a thermostat are disappearing.

At the end of April, 1963, approximately 1,100 electrically heated apartment suites had been completed, and some 1,200 more were under construction or planned.

"By 1965, we hope to have electric heating in one-third of all apartments being constructed," says Ivan Widdifield, manager of Ontario Hydro's Commercial and Industrial Sales Department. "To do this, we're working closely with municipal utilities and

other sales allies so that even wider interest and confidence in electric heating will be fostered among builders and apartment owners."

Building owners are finding that electric heating frees them from maintenance problems, service calls, and fuel storage, while its cleanliness eliminates the need for frequent redecorating. Space normally required for a boiler or furnace room is being used to better advantage.

Radiant ceiling cable, permitting complete freedom in furniture arrangements, and convection baseboard heaters, are the most popular types of electric heating systems used in apartment buildings.

This spring, the Electric Heating Association of Ontario extended its Triple Seal of Quality standards to include apartment buildings. The Triple Seal constitutes the Association's stamp of approval concerning the quality of the electric heating installation.

Methods of billing the building owner or the tenant for heating costs vary widely. In some electrically heated apartments, the tenants pay directly for the electricity they have used for heating and other household purposes. In others, the electric heating is billed separately and paid for by the owners.

A new method of metering and billing apartments—not yet widespread enough to be considered a trend—may prove the most beneficial to all concerned. With the new metering arrangements tenants do not pay their own electrical bills. All electrical energy used in the apartment building is directed through a single meter as a consolidated load, and billed at a single all-electric rate. The landlord pays the entire cost. Tenants make only one payment a month, to cover rent and electricity costs.

One of the first single-metered apartment buildings in Ontario was Macland Apartments in Toronto. When the 30-suite building was completed, the builder, Bruno Harilaid of Macland Construction, was un-

stinting in his praise of electric heating. He estimated that even with the additional insulation necessary and double-glazed windows, installation of electric heating cost his company about \$2,700 less than a conventional heating system, with minimum insulation and ordinary windows.

During the first winter of operation, in 1961-62, the actual heating costs were far lower than predicted. Mr. Harilaid felt that future heating costs would equal, or possibly be lower than, any other form of heat.

Frank Tomlinson, director of Consumer Service with Toronto Hydro, is convinced single-metering is the key to widespread acceptance of electrically heated apartment buildings. But he feels that, first, the public must be educated to pay rent which includes both Hydro and heating.

"By tradition, tenants don't pay their own heating bills anyway, and the so-called advantage of separate meters in electrically heated apartment buildings, with separate bills for each tenant, has probably been a drawback," Mr. Tomlinson says. "Although tenants are accustomed to paying their own Hydro bills, rental charges which include electrical service are quite common in office buildings, and shouldn't be a stumbling block in apartment buildings."

V. T. Breen, manager of Brampton Hydro, agrees. "There is no doubt in my mind that many more builders will go all-electric, as soon as a few single-metered electrically heated apartment buildings start operating and proving themselves," he says.

Brampton's first all-electric apartment building—the Parkside—was officially opened last July. The suites are heated with radiant ceiling cable. A rotary air-to-air heat exchanger mounted on the roof removes cooking odors from the building and, at the same time, makes use of the heat in the air to heat halls and stairways. The equipment transfers from 80 to 90 per cent of the heat in the air removed from the kitchen back into the building, after the odors have



been vented out. Baseboard electric heating units in the halls and stairways supplement the heat recirculated by the heat exchanger.

All electrical energy in the 73-unit building is directed through a single meter, and billed at an all-electric commercial rate. Total annual cost of all energy used at Parkside Apartments is estimated at \$10,912, of which \$5,943 will be for heating, and \$4,969 for non-heating energy.

From the utility's point of view, single-metering has advantages other than its value as an effective selling point to builders interested in electric heating. Instead of having to supply meters for each apartment, to read each meter, and to maintain a separate account for each tenant, the utility supplies and reads one meter and sends one bill—to the landlord.

Even in areas which were considered suburban a few years ago, apartment building construction is booming. In Metropolitan Toronto, North York, for example, 45 per cent of all dwelling units built during the past six years were apartments. This building pattern continues, and it is estimated 35 per cent of all dwelling units in the municipality will be apartments by about 1980. And present ratios of apartments to houses for three other Metropolitan Toronto municipalities are already higher: Mimico, 48.5 per cent; Forest Hill, 45.5 per cent; and Leaside, 40 per cent.

And the swing to apartment living is likely to receive new impetus from the droves of wartime babies now approaching the marrying age. If these young couples encounter electric heating in their first apartment, they will be inclined to want its many benefits in their own homes.

Brampton's first all-electric apartment, the handsome Parkside, top photo, was opened last July. Brampton Hydro Manager Ver Breen is shown, left, with Arthur Deat, centre, and Ray Carruthers who directed construction by Decar Developments. In photo, centre, John McMechan, vice-chairman, Toronto Hydro, explains function of baseboard electric heaters in Macland Apartments to Molly Reed, left, and Roberta Morrison. Lower photo shows Bruno Harilal, Macland builder, receiving Triple Seal of Quality as symbol of electrical excellence from Harry Hyde, gen. manager and chief engineer of Toronto Hydro. Mary Babuin of Macland Construction shares builder's pride.

# HOT BRICK HEATING?



*W. H. Munden, manager and secretary, Port Credit Public Utilities Commission, is shown, left photo, checking special metering installed to collect data on operation of unique storage heating system at Highlander Apartments. Photo, right, shows Bill Amos, left, vice-president of Sales for Pioneer Electric, discussing the storage heating units with his brother, Jack, builder-owner of the Highlander Apartments in Port Credit.*

## *Storage cell system heats modern 76-suite Port Credit apartments*

**A** MODERN adaptation of an old-fashioned heating device is making its North American debut in the Highlander Apartments, Port Credit.

The electric baseboard heating system in the Highlander Apartments works on somewhat the same principle as the hot brick Grandmother used to put at the foot of her bed. A concrete block in each heating unit stores sufficient heat to maintain room temperature for a period of four hours. Heat is transferred to the storage block by means of two removable 1,000-watt elements. For direct heating, each unit also contains resistance heaters, controlled by individual room thermostats.

Designed to utilize off-peak power, this type of installation has been used in Scotland, England and continental Europe for several years. A Canadian firm, Pioneer Electric, became interested some time ago in

the system's potentialities in North America, and chose Port Credit as a proving ground. The choice was not a random one. Bill Amos, of Pioneer Electric, is the brother of Jack Amos, the Port Credit builder of the apartments.

Port Credit Public Utilities Commission also became involved in the experiment because low energy rates, made possible by the utilization of off-peak power, are a basic ingredient for the heating system's success.

An automatic load-control located in Port Credit P.U.C. offices ensures that the resistance heating load of Highlander Apartments will be interrupted when the utility's peak load periods occur. A system of control relays brings the recharging cycle of the concrete storage heating cells into operation in four sections, or zones, at half-hour intervals.

Installed capacity of the 76-suite

building's heating system is 900 kilowatts. Of this total, some 500 kilowatts are the design capacity of the direct heating, leaving 400 kilowatts as reserve for the storage portion of the heating system.

Electrical energy for heating is directed through a single meter, and the building owner pays the bill. Each apartment has its own meter, however, for energy used for other household purposes.

According to Bill Amos, of Pioneer Electric, this type of installation has tremendous potential in Ontario and throughout North America. "When the off-peak power heating system has proved itself in Port Credit, it should open the door to electrically heated apartments all across the country," he says, "especially in smaller municipalities where the addition of a large load can seriously affect the utility's peak periods."

# GOLD MEDALLION CITY



*"We must restore our use of urban environment to the 24-hour day."*

A new concept in urban redevelopment, the all-electric Marina City project in downtown Chicago, combines office space, apartments and recreational facilities to restore urban environment use to a 24-hour basis. The world's largest all-electric, high-rise apartment project, Marina City is designed to bring people together to live, play, work, dine or go boating, ice skating, swimming, bowling or to the theatre.

Everything is planned around a plaza that includes two 60-storey apartment towers, the first 18 floors of which are for parking. This unique Gold Medallion project is completely electric, including cooking, water heating, air conditioning and comfort heating.

Upon completion, Marina City will have a load of 40,000 kilowatts and Commonwealth Edison, the supply utility, estimates its total annual revenue from the project at \$650,000.

The utility installed 12 kv primary service with step-down transformers on every other floor to the apartments, as well as transformers in other areas such as garage, theatre and office building. Duplicate 12 kv service and switching facilities are installed to assure continuous service.

In outlining the philosophy behind the development, Bertrand Goldberg, architect for Marina City, said that apartment buildings in large United States cities are being torn down and replaced by offices to provide additional income from the same space. But a 24-hour-day population is being replaced by a seven-hour-day population. Office and factory facilities, including urban services such as streets, sewers, water, electricity, police and fire departments, are idle much of the time.

"Our economic conclusion," he says, "is that we must restore our use of urban environment to the 24-hour day, seven days a week basis — both summer and winter."

*In the last two issues, Hydro News has presented a taped interview with top officials of the Supply Division who have outlined many facets of Ontario Hydro's purchasing policy.*

*In this concluding get-together, some of the interesting sidelights of obtaining top value for every dollar of purchase are examined.*

## HYDRO IS A CAREFUL SHOPPER

by Bob McDonell

### PART III — CONCLUSION

**Interviewer:** Contrary to what many believe, I understand that Ontario Hydro is subject to all custom, sales and excise taxes applicable to its purchases. Does this have a significant effect on the purchase price of products?

**Mr. Cunningham:** Most definitely. When one considers that Canadian customs charges can account for 20 per cent or more of the price with an 11 per cent Federal and three per cent Provincial sales tax added, the full extent of this impact can be realized.

**Interviewer:** Customs would seem to account for the largest share of taxes?

**Mr. Cunningham:** This is true on most imported items, but because of the small proportion of imports, cus-

toms is not the largest tax item in terms of dollar value. However, it is significant and we employ customs specialists to ensure that tariffs are applied in accordance with the regulations.

**Interviewer:** Does this mean that Ontario Hydro receives concessions on the customs duties it must pay?

**Mr. Cunningham:** No, we receive no special concessions not available to industry. There are, however, in customs, as in all classes of taxation, areas where savings can be effected. For example, changes in classification can mean the difference between paying 7½ per cent and 25 per cent. For this reason, our customs men review every import to assure that the proper rate of duty is being applied.

In one instance, in the case of high pressure boiler feed pumps, manufacturers quoted us a price which included duty.

After negotiations with authorities in Ottawa, it was established that these goods were of a class or kind not made in Canada and, therefore, not subject to customs duties.

The manufacturer, in turn, reduced its tender by the full extent of the savings, in this case, several thousands of dollars.

Another side to this issue is the benefits that can be derived from knowing the regulations. In the case of our coal purchases for thermal plants, we were able to have our stock piles declared bonded warehouses. This enables the coal to be stored duty free until it is consumed. Very considerable interest charges are thus saved. The importance of this is becoming more significant as the Commission moves from hydraulic to thermal generation and more coal is required.

**Interviewer:** Well then, does On-

*tario Hydro enjoy any special consideration with regard to Federal sales and excise taxes or the Ontario Retail Sales Tax?*

**Mr. Kennedy:** Definitely not. There are provisions in the Excise Tax Act for exemption of Federal sales tax on materials sold to provincial government departments, universities, and various boards and agencies, but we do not fall in this category. Similarly, Ontario's Retail Sales Tax Act provides for exemption on purchase of goods by Federal Government departments, and certain agencies which again, of course, is of no benefit to Hydro.

We are obliged to pay sales taxes. However, some materials may be purchased tax exempt for a variety of reasons. For example, at the Federal level of taxation, most building materials are unconditionally exempt, whereas, machinery, apparatus and allied equipment must be certified as being used directly in the production of goods before exemption will be permitted. In addition, certain other items such as pipe, valves, fittings, wire, cable, tubing, et cetera, are necessarily purchased tax paid with recovery permitted after incorporation of the materials into production equipment.

The Ontario Act also provides for tax exemption on goods purchased for production purposes. However, exemptions under the Ontario Act are not necessarily the same as under the Federal Tax and, consequently, care must be exercised in the interpretation of each act.

**Interviewer:** *Turning from taxes for the moment, it might be interesting to discuss the transportation of coal. Movement of such huge quantities of material must pose many problems?*

**Mr. Cunningham:** Transportation is one of the major factors in the cost of coal. Through negotiation, in recent months, it has been possible to obtain substantial reductions in transportation costs on coal moved on United States railroads to Lakeports for transshipment by vessels to our thermal plants. This has been made possible by better car utilization through trainload movements and limited car detention during loading and unloading. These savings, which amount to 75 cents a ton on coal shipped through Lake Ontario ports

and equivalent reductions through Lake Erie ports, can be increased, we feel, provided we can demonstrate that our scheduling can be arranged to give better railroad operating costs.

**Interviewer:** *It would seem that transportation costs would be a major item of expense in many supplies?*

**Mr. Kennedy:** Yes, they are. Of course many of our purchases are of an f.o.b. destination basis, particularly when installation is involved. Still, our direct transportation costs approach \$2½ million annually. Here again our staff assess all factors involved to ensure the required service at best value. In this regard we are continually developing ways and means of co-ordinating the movement of large quantities of material and equipment to gain greater economies and service. Our traffic personnel also work closely in liaison with our suppliers to review our contracts to determine that the lowest cost transportation facilities are employed. Savings through the use of improved methods are then passed on to Hydro.

**Interviewer:** *Does Ontario Hydro pay full rates on all transportation?*

**Mr. Cunningham:** Since transportation is a direct charge against supply we place equal emphasis on the purchase of these services in the same manner as all other services. As a result, we have over the years obtained favorable rates for the shipment of many classes of goods. This has been possible because of the large quantities of material we must use and also because we have been able to schedule many of our shipments to the advantage of the carriers.

**Interviewer:** *Mr. Cunningham, as you know, there are over 350 associated municipal utilities in the province of Ontario, all of whom buy supplies and services. Would you have any advice for them?*

**Mr. Cunningham:** It would be presumptuous of me to make suggestions as to how the supply function should be handled in any municipal utility. Conditions vary so widely that it becomes almost impossible to recommend a program without complete knowledge of the utility's operations. There are, however, some basic requirements for any intelligent supply program.

The first, I would say, is knowledge . . . knowledge of the needs of the individual organization and knowl-

edge about suppliers of goods and services which it requires. A small amount of investigation into needs pays large dividends in obtaining the product best suited for the particular application. Bargains soon fade if they do not measure up on the job. Through study, discussion, and contact with salesmen and sales literature any manager or purchasing officer can add to his product knowledge.

Secondly, all orders, tenders and related documents should be carefully scrutinized to assure they cover the requirements of quality, performance and delivery—neglect here can result in costly delays, misunderstandings and failure of the purchase to meet the need.

A third requirement would be the establishment of a comprehensive inventory management program . . . or the one hand over supply results in excessive storage, interest and handling charges or even obsolescence which can turn the best bargain sour . . . on the other, allowing stocks to depreciate below a safe level can be just as costly in lost revenue. Systems such as those employed by Ontario Hydro are perhaps too comprehensive for the volume of business handled by most municipal utilities.

However, many inventory control systems are on the market today, and it is up to each supply department to adopt the one that fits its needs best.

Finally, I would suggest that a procedure be established to make sure that quality is as stated. The use of nationally recognized standards, strict adherence to warranties, and checking of visible defects are all important if quality is to be maintained.

**Interviewer:** *I am sure that many of our readers will find these tips valuable in their programs, and perhaps they will be able to adopt some of the ideas in this series of interviews to their own needs. As a final word in this series, Mr. Cunningham, is there an attribute which you would single out as being all important in purchasing?*

**Mr. Cunningham:** As in most areas of business today, the supply function, to be successful, must be based on the application of good, common sense in establishing and interpreting policies. It is the foundation of good relations between the supplier and purchaser of goods and services.



*Coal pile or bonded warehouse?*  
Mountain at R. L. Hearn G.S., top photo, is both as duties are paid on coal as it is consumed. Hydro purchases are delivered by land, sea and air. In photo, centre left, Hydro's traffic supervisor H. S. Anthony, right, talks shipping with warehouse foreman E. W. Evans as trucks from across the province pull into A. W. Manby S.C. Officer, centre right, supervises unloading of Lakeview G.S. component from Manchester Fame. Photo, left, shows Hydro traffic and customs clerk Don Lloyd accepting rush order at Malton Airport from TCA traffic clerk.

Many aspects of Ontario Hydro's operation are described in pamphlets and papers available from the Commission.

## A WORD ABOUT HYDRO

Do you know who was instrumental in bringing publicly-owned power to the people of Ontario? How a nuclear-electric plant operates? When Ontario Hydro came into existence? Or where the rain cycle comes into the picture?

For your own interest, and to be ready the next time Junior wants to know the difference between hydro-electric and thermal-electric generation, you might find some authoritative literature helpful.

Ontario Hydro maintains a large stock of such diversified material from post-cards and mimeographed press releases to glossy booklets with full-color illustrations. They are available, on request, without charge.

The "Safe Use of Electricity" is outlined in a new folder many households might find valuable.

"Climate of Power" is a pamphlet, in color, about the size of a business envelope telling how water is used to produce power and why it's virtually undiminishing. In a similar format there is a booklet with the self-explanatory title "Lighting and Heating Through the Ages."

Science is much in the news, and a well turned out booklet on the Nuclear Power Demonstration plant at Rolphton is of increasing interest. It, and the pamphlet on the nuclear generating project at Douglas Point, each offer an outline of how nuclear fission is used to produce electricity.

To be available shortly is a profusely illustrated pamphlet "Kilowatts From Coal" which reviews the role conventional thermal-electric generation has come to play in Commission operations and suggests its future importance. The theory un-

derlying thermal-electric power is explained, and there is a graphic description of the giant new Lakeview steam plant near Toronto.

The story of electricity, its basic principles and a brief history of Hydro are to be found in "The Gifts of Nature," which also includes a glossary of electrical terms in its 44 pages.

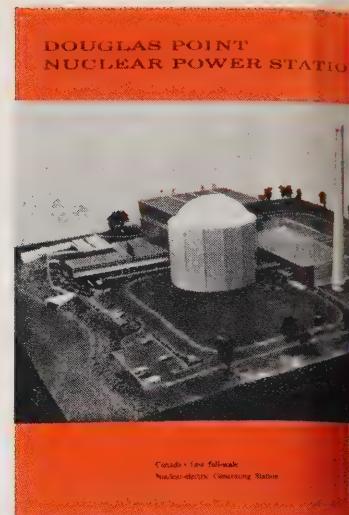
In more depth, the history of Hydro is colorfully told in the commemorative Hydro Golden Jubilee issue of Hydro News. For deeper study, the late Dr. T. H. Hogg's 1941 address at Princeton tells of the origins and philosophy of public power in Ontario. There are also comprehensive and enlightening briefs Hydro has made to Government on economic prospects and Ontario's energy resources.

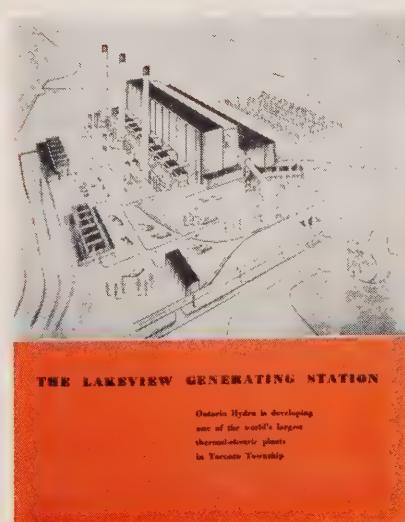
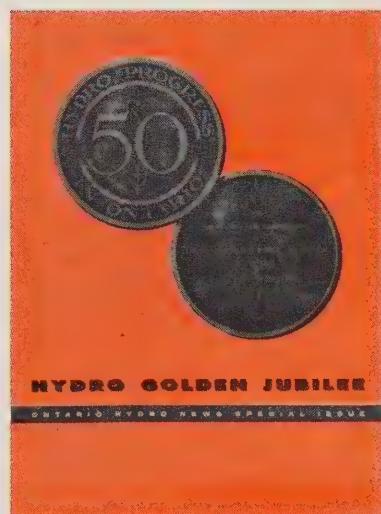
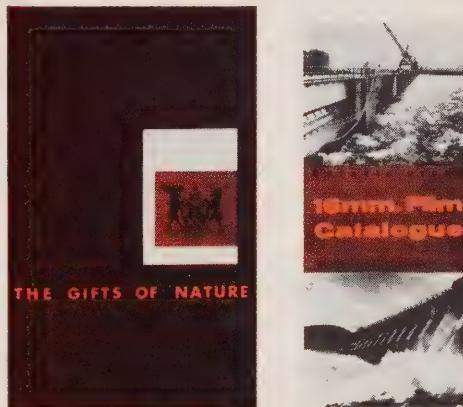
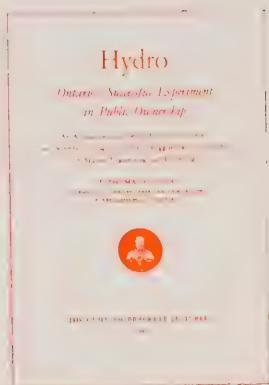
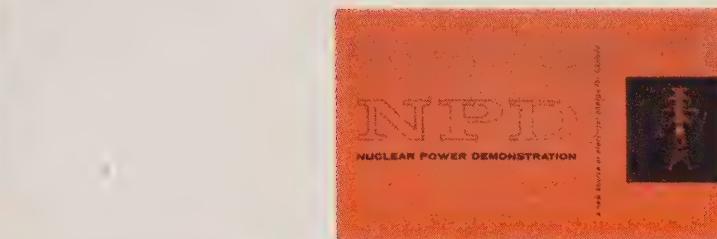
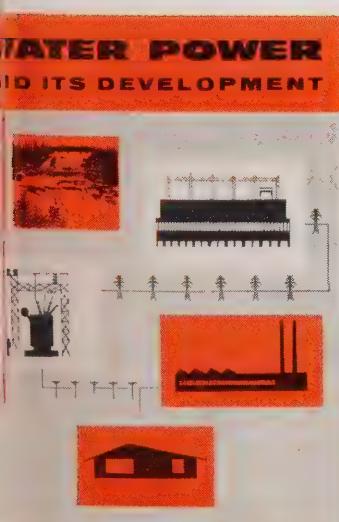
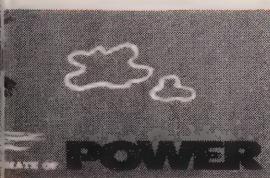
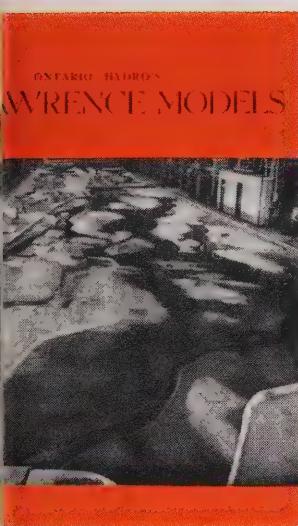
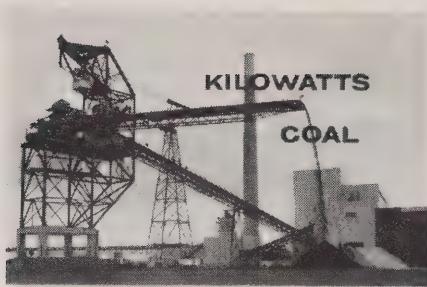
The postcards are one- and two-fold descriptions with color pictures of the Floral Clock at Niagara, and the generating stations on the Ottawa River.

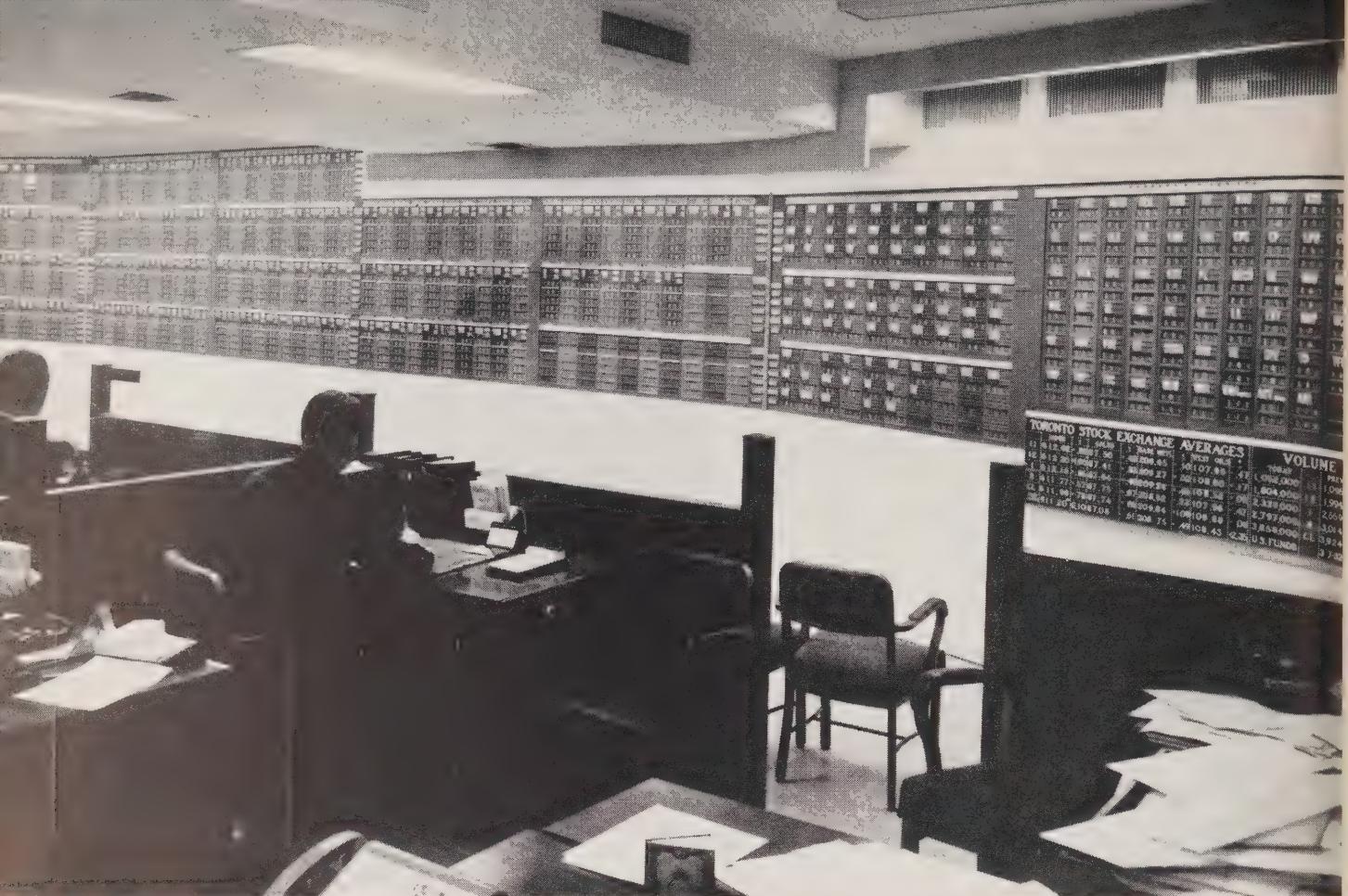
A leaflet-catalogue of Hydro's sound-and-color films which are available on loan would be handy for anyone with a group affiliation, and there is a long, easy-to-follow map, showing how the St. Lawrence project changed the topography from Prescott to Cornwall.

The latest annual report is also a good summary of what's going on in the Hydro world, and there are often extra copies of news releases dealing with specific Hydro projects.

All in all, if there is something you want to know about Hydro in Ontario, it's probably available through the Reference Bureau, Ontario Hydro, 620 University Ave., in Toronto.

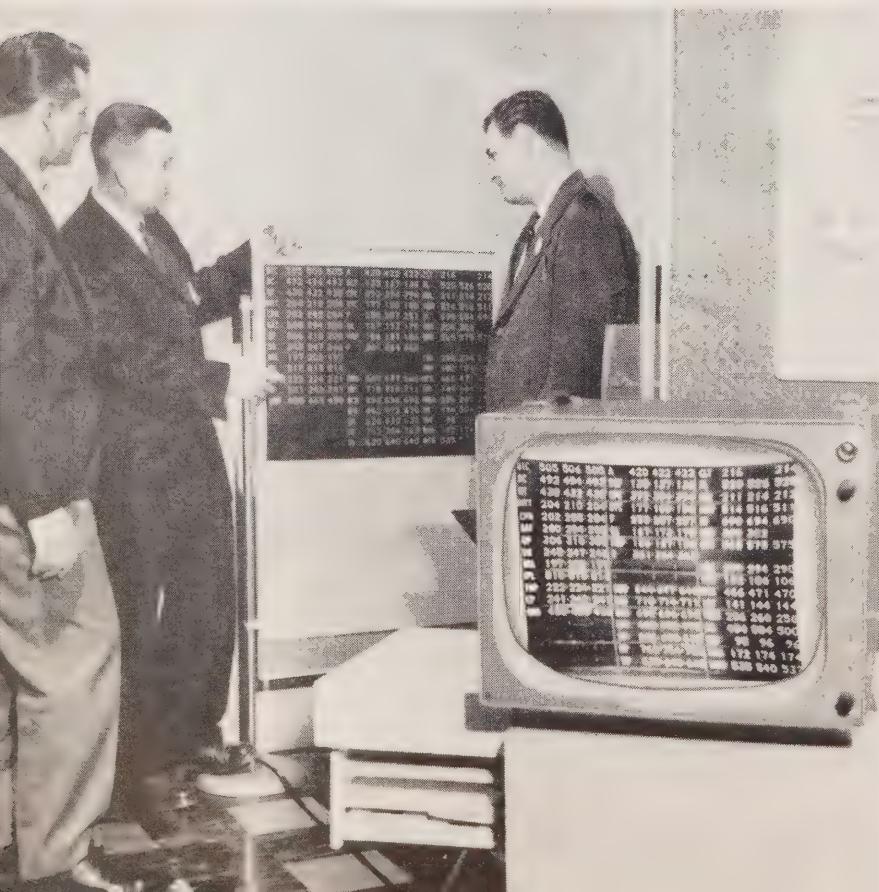






## AUTOMATION AND FINANCE

by Gordon Murphy



*Brokers and bankers are  
shedding tradition  
as Bay Street embraces electronics.*

*Closed circuit television is being considered to transmit up-to-the minute stock prices and other information to broker's offices from Montreal and Canadian Stock exchanges. In photo, left, Bell demonstrates latest equipment available for this purpose to stocktraders. Top photo shows electronic quote board in Toronto office of Merrill, Lynch, Pierce, Fenner and Smith.*

*Electronics and the changing scene is dramatically illustrated by photos on this page. Battery of computers, right, is being replaced by NCR 310 cheque sorter-reader, lower photo, in Toronto-Dominion Bank's data processing centre in Toronto. Each computer will handle a maximum of 1,500 cheques an hour. Cheque sorter-reader can process up to 45,000 cheques in an hour.*



## **Electricity on the Job**

Automation is taking over in Canada's financial world and romanticists are mourning, among other things, the passing of the day when young and enthusiastic board markers could rise through the ranks after the fashion of a Horatio Alger's hero. The sad truth is that electronics is replacing chalk as the means of marking up quote boards in the brokerage houses and on the floors of the country's stock exchanges. What goes in New York is now registered most instantly on at least two electronic quote boards in Toronto, with one of the boards providing quota-

tions for a total of nearly 350 Canadian and United States securities and commodities.

"It makes you wonder what they'll come up with next," commented one Bay Street veteran, as he studied this particular board, located in the offices of Merrill, Lynch, Pierce, Fenner and Smith Inc., the world's largest stock brokerage company. "Maybe they'll build a machine able to project the market. Then we'll be in the same boat as the board markers."

The speaker was thinking in terms of the projection of election results in which machines have achieved con-

siderable success after digesting a relatively small number of early returns.

His firm's quote board is posted automatically by wire signals originating in New York and Toronto seconds after the prices are established on the floors of the exchanges in the two cities. This enables customers and sales personnel to see what the market is doing at any given moment by merely sweeping their eyes across the display.

Stock brokers, being notably astute in financial matters, evidently consider the improved service a good





*Designed for banks and other financial institutions, the IBM 1062 teller terminal can handle such jobs as savings, mortgage loan and installment loan accounting. In transaction, above, it sends data to a computer and receives back new balance and account status simultaneously. The terminals may be located in branch offices and linked by communication lines to central data processing centre.*

investment because the electronic board at Merrill, Lynch costs more than \$20,000 in yearly rental, whereas the chalk marker operated for about \$6,000 annually.

Another electronic marvel known as the Telequote system helps this brokerage firm provide top service. This only requires the dialing of a four-digit number, as one would dial a telephone, and within seconds the last sale and bid and asked quotation on any one of hundreds of New York securities flashes on a board within view of the person dialing.

Telequote is essentially a central electronic data processor, located in New York City, which begins to record proceedings on New York Exchange floors when the market opens. Price information is automatically and immediately updated throughout the trading day. To obtain a quotation, the broker, located in Toronto or elsewhere, dials the appropriate code number.

Having set the stage for the elimination of the board marker in our complex financial world, automation is now moving in on other areas of the brokerage business. Stockbrokers

in Toronto are turning in increasing numbers to automation for simplification of office work. This latest development involves the data processing centre established by International Business Machine in the city's financial section. The brokerage house simply sends its day's trading blotter—a record of transactions—to the IBM centre and the machines do the rest.

And just down the block is the Data Processing Centre of the Toronto-Dominion Bank. Here, on the fifth floor, is another of automation's gifts to finance—a machine that reads and sorts 45,000 cheques an hour and remembers every one of them. Conventional electronic posting machines are capable of handling a maximum of about 1,500 cheques an hour.

The NCR 310, as the installation is called, is based on Magnetic Ink Character Reading (MICR)—a system of numbers and symbols which, in this case, are imprinted on bank cheque forms with a magnetized iron-content ink. Recognition of the MICR is built into the computer system, enabling it to take the cheques after

the amount has been marked in magnetic ink and simultaneously prove and sort them electronically according to bank, branch and amount. The system will eventually carry them through to a final automated posting.

Cheques processed by this system must be MICR imprinted, of course, and all Canadian banks are working towards this goal. Bank officials look forward to the eventual use of the MICR system on an international basis, a development which they claim would lead to the first truly international language in history.

Under this electronic-age form of Esperanto, installations similar to that of the Toronto-Dominion Bank would be programmed to handle a MICR-imprinted cheque issued, for example, in Rome against a bank in Paris and deposited in Toronto—and the processing could be carried out without the need for translation of any of the three languages involved. Such a development would certainly add new meaning to the immortal phrase "Money talks".

In any event, the MICR system seems assured of a place in world banking. Canadian banks alone handle more than one billion cheques a year, and with each cheque requiring handling three or four times under conventional systems, universal use of MICR would lead to huge savings of time and money. Cheque sorting is regarded as one of the most essential and time-consuming operations in modern banking.

Electronics is concerned not only with the corporate picture of banking, but also with the convenience and temper of the individual depositor. On this front, IBM has come up with a system that will enable bank tellers to record transactions and obtain a customer's balance almost at the drop of a pass book.

With this system in operation, no longer will harassed tellers be forced to perform arithmetical acrobatics under the nose of depositors. The teller will simply relay the details of a transaction to a computer and the computer will print the resulting balance on a device near where the teller is standing . . . and all this before the customer has time to make an observation on the one thing that has thus far evaded the control of machines—the weather.



along  
hydro  
lines

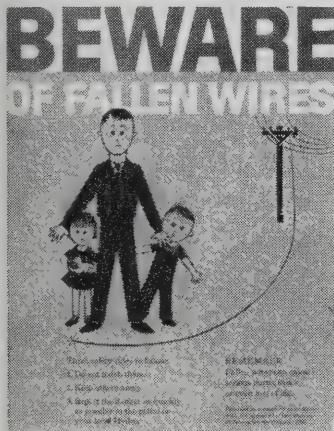
## **Richard L. Hearn Honored**

McMaster University recently announced the appointment of Dr. Richard L. Hearn to the Board of Governors. Dr. Hearn was chairman of Ontario Hydro from January, 1955, to October, 1956, and he was general manager and chief engineer from 1947 to 1955.

In announcing the appointment, Dr. H. G. Thode, president of the University, said:

"Dr. Hearn has played a key role in the development of Ontario Hydro. His valuable experience and mature judgment will benefit the University in planning its expansion program." ■

## Hydro Safety Posters Have Dual Objective



Ontario Hydro has completed a second series of three posters designed to promote safety among elementary and secondary school students in Ontario and to reduce damage to Hydro property caused by carelessness.

The messages, in both English and French, are in verse for elementary schools and prose for the older stu-

posters for the older students. They will also be shown in Ontario Hydro's rural area offices and made available to municipal utilities. More than 93,000 copies of the posters have been mailed.

Approved by the Minister of Education, the posters warn of the danger in playing with kites and flying toys near power lines, climbing utility poles or fences around restricted areas and using electrical hardware for target practice.

Reception of the first series, produced for the 1961-62 school season, was excellent. Many schools used the posters as a basis for safety lessons as well as bulletin board reminders.

Ontario Hydro's interest in safety at the school level is prompted by the belief that safe practices acquired early last a lifetime, and because many of

the dangers apply particularly to school-age children.

It is also hoped the posters will help cut down on the damage caused to Hydro facilities by the careless use of rifles, and by vandalism. Replacement of insulators alone cost Ontario Hydro some \$40,000 in 1961.

## Smaller Hydro Bonds Will Be Available

Ontario Hydro Bonds, fully guaranteed by the Ontario government, have long been highly regarded by the investment community. These issues were previously handled exclusively by a syndicate of brokers and for the most part they were purchased by large institutional investors. Acting upon a recommendation of the last annual meeting of the O.M.E.A., the Hydro Commissioners have agreed to make these bonds more readily available to the general public as well as to Ontario Hydro and public utility employees. For this purpose, a block of bonds will be set aside from the next issue, with denominations starting as low as \$100 face value. Details will be announced at a later date. ■

## LOAD-BUILDING

Speaking as a member of a panel on load building at one of the District 5 O.M.E.A. meetings, J. A. Williamson, manager, Niagara Falls Hydro, made a number of comments worthy of reflection. He was outlining the responsibilities of the manager in a utility load-building program.

*On pricing*—“When any merchant is in business and wishes to sell goods or services, it is elementary that pricing be in keeping with the cost and in keeping with the competition.

"It is rather obvious that one could build up a tremendous load of space heating, if space heating was offered at  $\frac{1}{2}c$  per kilowatt-hour. But on the other hand, if it was offered at  $2\frac{1}{2}c$  per kilowatt-hour, very few would be sold. Thus, there is obviously a need to find out what costs are, and price the kilowatt-hours accordingly.

"Improper pricing can cause serious economic loss. The sale of electricity at hit or miss rates can seriously distort the sales picture and damage the utilities' economy. A utility might find that it is selling very considerable kilowatt-hours for undesirable loads; and, on the other hand, losing desirable loads because of improper pricing."

*On costs*—"The economics of the operation are an essential part of any study made in relation to any business activity. It would, therefore, be the manager's responsibility to investigate the cost of any proposed load-building activity. . . . The proposed amount to be spent should then be correlated with the probable or possible return.

"A utility which does not have a merchandising operation must charge all of its load-building program against revenue from rates. Since rates are predicated on the basis of a reasonable 'accumulated surplus', due to possible reductions in unit costs one might

double this to come to a break-even point. This does not leave a great margin for expenditures on a sales promotion program, even where it is accepted that the accumulated increment of revenue could be allotted for a period of two, three or more years against one year's expenditure.

"However, promotional expenditures are an essential item of utility cost—but must be carefully balanced."

*On perseverance*—"In closing, I would like to emphasize that the actual development of a load-promotion campaign in any utility should be a consistent and continuing effort. One-shot operations will largely be a waste of money. The continuing effort must be a joint one between commissioners and the manager. This effort should be considered as an essential part of the operation of the utility in the same manner that engineering, outside construction, billing and collecting are part of the operation. It would further appear that, in most cases, the load-building program will require co-operation with the adjoining municipalities in a given commercial community."

#### **Former Commissioner Dies at Peterborough**

Richard Raine, who served for nine years as a member of the Peterborough Utilities Commission, died recently after a short illness. He was 61 years of age.

Active in Masonry, Mr. Raine was a former councillor and past president of the Peterborough Kiwanis Club. He was chairman of the Utilities Commission during the controversy over the gas utility, when it was decided that this department should be sold to a private company.

Born in England, Mr. Raine came to Canada in 1933. Among his survivors are his mother and a son, Richard James. ■

#### **St. Thomas Retirement Makes Front Page News**

When Joseph R. Skelding, service foreman with the St. Thomas Public Utilities Commission, retired recently after more than 50 years of Hydro service, the announcement eclipsed all other features on the front page of the local daily newspaper.

A clue to the esteem in which he was held during a half-century of municipal service may be found in his devotion to the job. Asked by the newspaper to account for his popularity, he replied:

"I guess it's just because I've been very happy with my job. I always liked my business, home, and above all I like people: always found it a pleasure to talk to the users of Hydro, to help interest and advise them about the installation of new or additional hydro-electric facilities or discuss their light and power problems with them."

Mr. Skelding took what turned out to be his only permanent job in 1912 when, at the age of 14, he became a meter reader with the city's Light and Heat Department. As the man with the longest service record, he was called upon in 1961 to unveil a plaque erected in the lobby of the P.U.C. office to mark the 50th anniversary of Hydro in St. Thomas.

At the time his retirement was announced, the P.U.C. took advantage of the occasion to run an advertisement saluting his service achievement. "Take a tip from Joe Skelding," the ad suggested, "and join those who want the best, aim for total electric living!"

## **MUNICIPAL BRIEFS**

**Grand Valley Metermen's Association** held its annual spring meeting recently at the Erie Beach Hotel in Port Dover. Typical of the problems discussed at a lively question and answer session was this: Will a 2-element, 230-volt polyphase watthour meter accurately measure a load consisting entirely of 3 phase, 208-volt motors fed from a 120/208 volt network system with 3-phase conductors only?

**Electric heating** has become so popular and the demand for technical information so great in Etobicoke Township that a full-time electric heating and air conditioning consultant has been appointed by the Hydro-Electric Commission. He is William S. Hobbs, whose consulting service will be made available to architects, builders or contractors in Etobicoke and Long Branch who are contemplating electric heating or air conditioning installations. A recent survey indicates that there are more than 500 electrically heated homes and apartments in this fast-growing western Metropolitan Toronto municipality.

**Brockville P.U.C.** recently voted to appoint a full-time salesman to the permanent staff to promote the use of electricity.

**Oshawa P.U.C.** and the local Kiwanis Club were hosts recently to some 200 elderly Oshawa citizens on a three-hour bus tour of the city and surroundings.

**In the interest** of improved service and good public relations, Brampton Hydro has formed a consumer service department to deal directly with customers.

**To promote** the use of electricity, Durham P.U.C. is giving modern "Cascade 40" water heating units to every customer who builds an all-electric home.

**In his annual report**, A. W. H. Taber, manager, Fort William Hydro, noted that the city's street lighting system was almost entirely new. By the end of 1962, he reported, there were 97 miles of streets lighted by modern units. "We believe no city in Canada has a better over-all street lighting system," he said. Mr. Taber credited increased use of electricity in homes to a stepped-up sales program and introduction of such things as a home wiring finance plan, consulting service on electric heating problems, and the commission's water heater rental program.

**Galt P.U.C.** plans to re-occupy space on the ground floor of its headquarters building after a \$7,000 renovation program is completed. The space is being vacated by the Customs Department.

**In explaining** how the cost of power purchased from

Ontario Hydro by Rainy River P.U.C. has dropped some 50 per cent since 1958, when the town became a Hydro municipality, commissioners pointed out, at a recent meeting, that power consumption had almost doubled in that period. Another contributing factor was the diversity of appliances being used which tended to level off the sharp peaks previously experienced.

**In her latest news letter**, Miss Gail Hoyt, home economist with the Home Service Department of Chatham Hydro, invites customers to contact her if they . . . have a cooking or household problem . . . need instruction on kitchen or laundry appliances . . . need help in planning a new or remodeled kitchen . . . want a film to show at a club meeting . . . want to make extra money for a club or organization and gain new ideas to take home by having an evening cooking demonstration at the Hydro building.

**Acton Hydro** is considering construction of a new headquarters building from available funds.

**Among the larger capital expenditures recently announced for 1963** are the following: Woodstock, \$115,000; Welland, \$212,500; St. Thomas, \$145,500; and Windsor, \$944,605.

**Deep River Hydro** Superintendent *Robert Spence* told a recent meeting of the commission that nine homes in the municipality are now being heated electrically, while four others are being planned.

**Personalities** in the news include *C. J. F. Ross*, Q.C., who has been named to fill the vacancy on the London P.U.C. created by the death of chairman *J. Stewart Killingsworth*. Mr. Ross polled the highest vote among the unsuccessful candidates in last December's election. *Campbell Calder* becomes chairman. *P. G. Sanderson*, Woodstock, has been elected president of District 7 A.M.E.U., while *D. A. Rolston*, Strathroy, is vice-president. In District 8, *Jack Anderson*, Leamington, is the new president, with *Glen Fisher*, Windsor, vice-president.

## Family Night at Brockville



Family night, when the combined staffs of the Brockville Public Utilities Commission and Ontario Hydro's area office join with their wives or husbands to renew acquaintances and cement friendships, is becoming a local tradition. Entertainment this year included Ontario Hydro's film presentation of the annual report

and a film entitled "The Greeks Had a Word" which depicts the evolution of thermal-electric generation.

Among the highlights of the evening was the presentation of long-service awards. In the photo, centre, Robert Devaul, retired superintendent with 47 years' service, receives framed scroll from Mayor George Smith. On their left are J. R. Philips, commissioner, and Henry Little, manager. Commissioner F. C. Curry is at right.

## PRESS COMMENT

Gleaned from recent press clippings, the following comment is of particular interest from the Hydro point of view:

*Fort William Times Journal*

It is reported that one of the reasons the Ontario Hydro Commission does not publish the figures of its annual advertising budget is that some members of the Provincial Legislature feel that Hydro spending on advertising is money wasted. Since the Hydro has a monopoly, their argument goes, it does not need to sell people on using electric power. But such an attitude toward advertising is very short-sighted, as the recent big campaign of the fuel oil industry clearly demonstrates.

Hydro has a monopoly on selling electricity, but nowadays that is only one form of fuel available to the public. Oil and gas now compete with each other and with electric power. When fuel oil suppliers, following late the lead of natural gas, decided recently to offer residential customers a free maintenance service for their furnaces, advertising by oil dealers informed the public quickly and fully about the matter.

If the Hydro is to sell the heating of homes by electricity in any worthwhile quantity, or any other use of electricity that competes with natural gas or oil—the Commission has no alternative but to advertise. The idea that electricity—or any other fuel—enjoys a complete monopoly in the energy field is quite in error.

*Sarnia Observer*

The "Ontario Hydro" was elaborated upon by Mrs. Lee Taylor at the Friday afternoon meeting of the Women's Study Club of Sarnia. . . .

"The splendid dream of Detweiler, and Snider, the embattled cause of Adam Beck, has become one of the World's largest and most successful organizations," said the speaker when describing the Ontario Hydro. . . .

"Hydro—as the Commission and all its works are called, is no longer a unique institution. Several other Canadian provinces now have similar hydro-electric power commissions, and its structure and management techniques have been copied in the U.S.A. and other countries. Nevertheless Hydro was unique at its inception, having its beginning when the technologies of electrical production and transmission were in their infancy. The commission was one of the world pioneers in large scale hydro-electric development, standardization of equipment and appliances, utility

management and rural electrification," continued the speaker. . . .

"Today, its cause long won, Ontario Hydro is an established public electrical utility much like any other except that it is bigger, covers more territory and serves its customers at cost, all of whom directly or indirectly are its owners," acknowledged Mrs. Taylor. ■

## Special Appliance Show



Among the recent activities of the Electric League of Burlington and Oakville was a special display of electrical appliances. Held in the attractive new headquarters of the Burlington Public Utilities Commission, the display and demonstrations were designed to acquaint townsfolk with the latest developments in electrical living.

In the photograph, Burlington P.U.C. General Manager E. A. Washburn watches as Mrs. Frank Ebos removes a potato baked in an electronic oven. Cooking required only three minutes. ■

## Brightest Show on Earth For World's Fair 1964-65

Ground has already been broken for the "Brightest Show on Earth", the U.S. electric utility industry's exhibit at the New York World's Fair, 1964-65. Called "a pyramid of prisms", the exhibit is sponsored by the member companies of the Edison Electric Institute, a group producing electricity for three-fourths of the nation.

The building will resemble an irregularly shaped, multi-colored crystal palace. The vertically staggered triangular prisms of anodized metal forming the walls will rise to a height of 80 feet. Crowning the structure will be three 40-foot pylons to serve as a housing for a vertical shaft of brilliant light.

Each exterior surface, and there are hundreds, will be fluted with fins of multi-colored reflective metal designed to create the effect of ever-changing color and iridescence during the daylight hours. After dark, the structure will be bathed in shimmering colored lights. Visitors will be carried on a moving ramp across a reflecting pool to the pavilion entrance. Standing on an elevated revolving ring, they will embark on a 20-minute trip through the exhibit chambers, where the utilities' story will be presented in a dramatic and entertaining manner. ■

## LETTERS to the editor

### Dear Sir:

In a recent issue of Hydro News, you discussed the relative merits of electric blankets and husbands. You pointed out that one couldn't dry-clean a husband and restore him to almost-new condition.

I must agree that I have never been dry-cleaned, but then, neither has my electric blanket. There is a large *Do not dry-clean* tag sewn onto it. Recently I took it to a cleaning establishment hoping that the experts could help me. "Oh no," they said, "nobody does electric blankets."

Now surely, sir, in this second half of the twentieth century, the generation that has developed antibiotics, nucleonics and the Twist can evolve some method of cleaning an electric blanket. You, in your position, should be among the first to hear of it.

I am living better electrically, but in unimaginable squalor. Help, oh help me, while I can still bend that blanket down to get into bed.

H. E. Skelton,  
Timmins, Ont.

*Editor's Note:* He has us there. We should have asked: Can a husband be restored to almost new condition by one trip through an automatic washer and dryer? It seems that manufacturers advise against dry cleaning because cleaning solvents might damage the insulation in the blanket shell. Electric blankets are readily washed, however, by either hand or machine.

### Dear Sir:

That light bulb shown in the April Hydro News (Off-The-Wires) was particularly interesting. I wonder how many St. Thomas P.U.C. customers have noticed that it has a left-hand thread?

Robert A. Lane,  
Toronto, Ont.

### Dear Sir:

Although I am an employee of this Commission, I am taking the liberty of writing to you as president of the Kingston Chapter, The National Secretaries Association (Int.).

For your information, the last week in April in each year is known as "Secretaries Week", and each year at this time two members of our Chapter are invited to speak to the local Rotary Club. I have now been privileged to address this group twice, my second time being today.

Last year I chose as my topic the "why's and wherefore's" of our Association. This year I took the privilege of reading to the members assembled your article which appeared in the February 1963 issue of Ontario Hydro News entitled "How To Get Along With Your Girl Friday—From Monday." You may rest assured, Sir, that I stressed the name of the author of this article and from whence it came. . . .

Thank you for assisting Kingston Chapter, N.S.A.  
Norma Jean Chesson,  
Kingston P.U.C.

# OFF THE WIRES

So you think times are still a bit tough in Merry Old England. Truth is, they have money to burn. For some time now, they have been burning millions of old pound notes in Battersea power station furnaces without any appreciable affect on the cost of power. And if we are used to thinking about thermal-electric generation in terms of coal, gas and uranium, consider these other types of fuel.

In Gambia a peanut farmer burns peanut shells to fuel a 750-kilowatt generator. Cotton seed husks fire the boilers in power plants in the Sudan and Tanganyika; in East Africa waste from a tea plantation runs a generator, and the Siamese are converting rice and sugar waste into power.

Far from coal and oil fields, these small, isolated projects indicate that engineering ingenuity can frequently overcome geographical handicaps. As the *Powassan News* points out, there is no room for the word "waste" in our industrial vocabulary.

In the field of unusual problems, the one faced by Kingsville Public Utilities Commission ranks among the top. And the solution will be well worth a gander.

Approached recently by the local Chamber of Commerce to have Canada geese painted on their new elevated water tower, the commissioners agreed to go along, but, three weeks after the suggestion was made, no one could produce a suitable design of honkers in flight. Too, commissioners must decide whether the geese should be painted in simulated flight around the spherical tank, or in V-formation.

Kingsville, 28 miles southeast of Windsor, is famed for the Jack Miner bird sanctuary.

The power of the press was well illustrated in a bit of comic opera which recently transpired in the Niagara area. Following a report in the Toronto Globe and Mail that the tug "Good News", which spent the winter surrounded by

ice and floating free in the lower Niagara River, had been returned to its mooring, the Niagara Falls (N.Y.) Gazette phoned the owners, who confirmed the report. So the Gazette ran the story.

After the paper came out it received a flood of calls from residents who could see the tug still off shore from their windows. The owners were called again. "Sure it's back," was the reply, "We read it this morning in the Globe and Mail."

The paper then called the Niagara Parks Commission police who soon put the matter straight. "Sure it's back," was the reported reply, "We just read it in the Gazette."

Everything is underground in the Guelph Cemetery—which is just as it should be. A recent report by the cemetery commission notes that the electric supply to the mausoleum has been placed underground and its lighting updated.

In a more serious vein, and in view of the interest being expressed in the design of a common identifying emblem for Ontario Hydro and the municipal utilities, the following comment by the Royal Bank, which has just recently introduced a new emblem, is worth considering.



"A professional design team was engaged," the monthly bank letter recounts, "and created scores of designs, including a variety of abstractions, crowns, ovals, triangles and modifications of the old emblem that has been in use all this century. A small committee of bank executives and officers sat in while these were discussed, and, after several meet-

ings, the number of designs was reduced to two before the final choice was made.

"It became clear early in the operation that it would be futile to attempt to express all the committee's thoughts about the bank in one emblem: dignity, substantiality, progressiveness, service, friendliness, accessibility, and a dozen other points of virtue. It was decided, then, to concentrate upon a few things: to carry forward something of the emblem that embodies this bank's long history of significant service to Canada, to dress it in modern garb befitting the bank's liveliness to progress, and to indicate the scope of our service not only in Canada but throughout the world.

"It would have been hopeless to attempt to show within the bounds of an emblem the day-to-day reality of the Royal Bank as a place where pleasant people accept deposits, make out money orders, cash cheques, advance loans . . . and provide all the other services for which the bank exists. We decided to limit our emblem to emphasizing that behind all these is our tradition of stability which makes these services possible and dependable.

"The emblem had to be practical, something that could be used on cheques, booklets, advertisements, letter paper, office and branch memos, and everything else we print; on trucks and billboards; and eventually on every one of our branches in Canada and abroad.

. . . "Now the Royal Bank, like everyone else with a new emblem, faces the task of getting it into use, because an emblem is wasted unless it is used wherever its owner meets the public. Rules will be set up for applying the emblem in every day use so as to emphasize the corporate identity of this bank and all its branches. The effect sought is that of a symphony orchestra in which dozens of instruments, each with its own range of capabilities and tonal qualities, combine to produce a single musical 'image'." ■

# MODERN ELECTRIC REFRIGERATORS

give you more storage and freezer space to eliminate "extra" trips to the store... automatic defrost to reduce cleaning chores — styling to add glamour to your kitchen. Choose today from many makes and models.

## *your hydro*

LIVE BETTER ELECTRICALLY



This is one of 17 advertisements prepared for the municipal electrical utilities to assist in their local advertising programs. They feature a uniformity of layout designed to establish continuity and a "family" resemblance. Mats of stereos are available without cost from the Advertising and Marketing Services Department of Ontario Hydro.

UNIVERSITY OF TORONTO  
LIBRARIES  
UNIVERSITY OF TORONTO LIBRARIES  
1970

ONTARIO  
**HYDRO NEWS**  
JUNE, 1963



Electricity helped these little piggies go to market—see page one



This fellow is not likely to end up on anyone's dinner table but he does suggest what a professional chef can do when his creative ability is given free rein. The creation was part of exhibit at this year's Canadian Restaurant Association conference. For Hydro's role in the show and other developments in commercial cooking field please see page 14. ■



Machines like this may be more at home on snow and ice but these two company representatives found it would skim very nicely over the grassy fields at Hydro's Conference and Development Centre, Niagara Falls. The machine was part of the A.M.E.U.'s electrical utility equipment display—largest of its kind in North America. Further details on page eight. ■

JUNE, 1963

## ONTARIO HYDRO NEWS

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### THE COVER

If a bad pun is permissible, we might say that the fine bevy of young pigs on this month's cover is bacon in the comfort of an electrically heated pen. Because the farmer is a business man, he is more interested in dollars and cents than he is in providing his stock with luxury living. How electricity is helping to make farming profitable is discussed in the article commencing on page one of this issue.

HYDRO NEWS, VOL. 50, NO. 6

Editor: Don G. Wright.

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*Electricity plays a major role in*

# THIS BUSINESS OF FARMING

Today's farmer is no longer a man with a hoe, a strong back and a homespun philosophy — he is a level-headed business manager of energy, capital and technology. The following statistics suggest how the farm scene in Ontario has changed during the period from 1945 to 1962:

- Farm labor force fell from 360,000 to 172,000.
- Farm customers supplied with electricity by Ontario Hydro rose from 65,000 to 138,000.
- Electrical consumption per farm customer of Ontario Hydro tripled—from 181 kilowatt-hours per month to 585.
- Farm production increased by 36 per cent in the face of a 10 per cent decrease in cultivated acreage and a 50 per cent reduction in the labor force.

by Bob McDonell

**A** QUIET revolution is spreading throughout rural Ontario. To the city traveller speeding through the countryside its only visible sign is the unprecedented building boom in barns.

Like the mushrooming factories on the suburban approaches to our cities, these farm factories bear little resemblance to their predecessors, but are streamlined, modern and attractive.

For the farmer, new farm buildings are but one phase of the revolution which has touched every aspect of his operation—crops, material handling, livestock, farm management and markets.

Spearheaded by a comprehensive agricultural extension service, Ontario farmers are increasing field production of all crops in spite of reduced acreages. This is due to a four-pronged program of better varieties, tillage, fertilization and control of

*Push-button control feeding for 600-head beef herd at Kent Farms, right, is activated from panel, lower left, being explained to owner D. G. McGorman, Dresden, by electrical contractor. Modern farming requires expert advice in many fields. Farmer, lower right, consults with Hydro, Department of Agriculture, contractor, and equipment dealer.*



disease, weed and insect pests. And better harvesting methods and equipment are saving more of the nutrients in these crops. Whether for the market or home consumption, more efficient crop handling is one of the most notable changes on the farm scene.

Larger operations and a shortage of competent farm labor has greatly increased the farmer's dependence on electricity and labor-saving equipment both in the field and barn.

To assure that outlays for this new equipment are not wasted, farmers in ever increasing numbers are studying farm management and the complexities of their businesses and relying more on expert advice in all fields. This philosophy follows through into marketing.

From the relatively simple trading arrangements of a generation ago, farmers have developed highly complex marketing plans operated by their own appointees in such commodities as pork and tobacco. Currently, 26 different farm products are controlled by 13 marketing boards in Ontario. As well, through producers groups in such products as cheese, processed milk, and fluid milk,

producers have collectively obtained bargaining rights with processors.

In recent years a new development has been occurring in sections of the industry. This is vertical integration—control of all processes from the land to the consumer by a large company. Under it, the farmer and his land are contracted to the company, under terms of a strict agreement. Although its presence is felt in many farm products such as broilers, vertical integration is still a relatively minor factor in the overall agricultural production of the province—estimated at over \$1.25 billion in 1962. For the most part, Ontario agriculture is and will continue to be based on the solid foundation of the family farm, but a family farm system where knowledge, mechanization and good management practices are replacing manual labor.

Fully aware of these more sophisticated approaches being adopted by farmers, Ontario Hydro established its farm sales program some three years ago to assist them with their changing problems.

Key men in the program are the area sales representatives who act as contacts with the farmers, providing advice on modern electrical applica-

tions, and acting as liaison with Farm Sales technical staff. Backing up the work of the area sales representatives, who also handle residential, commercial and power customers, are 11 regional farm sales supervisors—specialists in farm electrical problems.

In addition to providing counsel and assistance to the area sales efforts, the supervisors actively promote a greater awareness of the role of electricity in modern farming through short courses for Junior Farmers and 4H Farm and Home Electric Clubs. They also assist the Head Office staff in developing advertising and display programs to promote the use of electrical appliances and equipment throughout the province.

Heading the farm sales efforts is John Moles, an agricultural graduate, farmer, and as a former commentator and director of many CBC farm programs, one of the province's best known farm personalities.

The greatest incentive to increased electrical usage on the farm has been a change in classifications and rates for farm customers. Since the earliest years Ontario Hydro's farm rates have been designed to encourage the installation of farm services throughout the province, and 35 ampere service

# Half a million rural customers

NE of the most significant chapters in the 50-year history of rural electrification in Ontario was completed earlier this year when Ontario Hydro brought electrical service to its 500,000th rural customer.

Rural electrification, launched in 1912 by the Commission's first chairman, Sir Adam Beck, is now nearing the saturation point. More than 97 per cent of the rural population of Ontario is supplied with electricity through some 48,500 miles of line.

"The record number of rural customers now served indicates the contribution electricity has made to social and economic progress in rural Ontario over the last 50 years," Ontario

Hydro Chairman W. Ross Strike said recently. "Since the inception of Hydro, the extension of service to rural areas has been a paramount objective of our overall program to provide low-cost power in all parts of Ontario."

The number of rural customers, which include those living in fringe areas of cities, hamlets and summer cottages as well as farms, has approached the half million mark for several years, but annexations of suburbs by Ontario municipalities have kept the total below this figure. These suburban customers have been absorbed by municipal utilities associated with Ontario Hydro. ■

were established as the standard. After the war the Commission was hard pressed to satisfy the demand for new rural lines and services which now serve 138,000 farmers through 8,600 miles of distribution lines. And as farmers discovered the versatility and economy of electric power, demands soon outgrew the capacity of these small services.

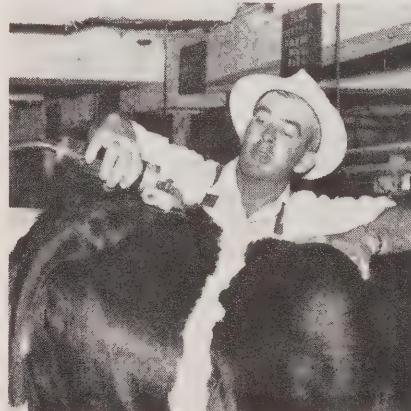
When the backlog of demand for new farm services was satisfied and it was in a better position to handle the increased power demands on its distribution facilities, Ontario Hydro revamped its rural rate schedules to encourage the farmer to make full use of electricity.

As a result, 100, 200 and even 300 ampere services are now being installed on farms throughout the province.

This upgrading of farm services is the Farm Sales Department's most important task, says manager John Oates. Without such a program, he feels, farmers cannot cash in on the research and development of new and modernized electrical equipment designed to make farming easier, more profitable, and a more pleasant way of life. ■



*A few of hundreds of farm applications of electricity are heat lamps, above, cattle clipping, left, hay drying and moisture testing, right. Kitchen, lower photo, may not be typical but it illustrates how farmer's wife has also welcomed electrical assistance on the job.*



# TWO FARM BUSINESS MEN

Typical of a new breed of farm business operators is Leo Federau, whose 150 acres on the outskirts of Kitchener is an assembly line milk factory. Main production equipment is a herd of 175 Guernsey and Holstein cattle rather than a stamping press or lathe, and the product is milk rather than nuts and bolts or any one of a thousand products of suburban factories throughout the province.

But even the barns, built from the ground up on contract by a local building firm, differ little from the modern factories with their clean utilitarian lines.

To Leo, who came to Canada 12 years ago from his native Germany, management is the most important ingredient of success—management of capital, equipment, stock and labor.

In addition to the usual skills which must be learned and the headaches which must be endured by every business man, says Leo, the dairy farmer must study and interpret complicated blood lines of cattle and face the vagaries of the weather to a greater extent than most.

That he has mastered his skill with cattle shows up on Leo's ROP (Record of Performance) testing which last year proved that his cows produced an average of 14,000 pounds of milk compared with a provincial average of 7,000 pounds. And machinery is assisting in removing most of the weather hazards.

For an operation of this size, Leo has a remarkably simple line of harvesting and field equipment, preferring to rely on custom operators for much of the field work.

In the barn, however, mechanization and automation has been carried to the ultimate. Electrical consumption averages well over 4,000 kilowatt-hours a month. The herd is fed at the flip of a switch in a matter of minutes through an integrated feed system which unloads the silos and augurs the silage, both hay and corn, into bunkers. All cattle are loose housed in open-end sheds protected from the weather by high metal-clad walls.

The modern milking parlor handles four cows at a time and pumps the

milk directly into bulk coolers with a capacity of four tons. Sanitation for the milk equipment is provided by two high-capacity electric water heaters. Electric heat also removes the winter chill from drinking fountains and pens for young stock.

This equipment enables Leo to handle the 175-head herd with one hired man—an outstanding record of efficiency.

Although milk farms similar to Leo's are increasing in popularity in Ontario, dairying has not switched to all-out specialization to the same extent as other farm operations such as egg and broiler or hog production. The bulk of Ontario's milk is still produced by mixed general farms such as the one operated by Walter Bowman, a mile or so down the road from Leo Federau.

With his teenager son, Don, Mr. Bowman operates a 200-acre mixed dairy farm, milking about 30 cows on a twelve-month basis and obtaining extra income from poultry, cattle and hog sales and from custom field work in the area.

*Modern farm factories duplicate automatic production lines of other industries in such products as milk. Typical of trend is the completely electrified operation of Leo Federau, right, of the Kitchener area. His farm's resemblance to a modern factory is apparent in photo, below.*



Over the years, the Bowmans have gradually modernized their conventional bank barn so prevalent for the last 50 years in Ontario. A modern milk tank milk cooler, stable cleaner, ventilation fans, fluorescent lighting, heating lamps, electric pumps, and a variety of other mechanized aids have been added as needs arose and funds were available.

To young Don Bowman, electricity is one of the farmer's greatest aids. Without it he doubts if many young people would stay on the farm. But Don, farm life is ideal with its variety, healthful atmosphere, and constant challenges.

To a large extent, electricity has removed the drudgery, and the future looks good with more and better equipment becoming available each year. But, Don adds, farmers must keep up with the times if they wish to be successful.

Assistance to help the farmer meet this challenge is the goal that faces electrical supply authorities and manufacturers in the agricultural marketplace during the '60's. ■

*Another efficient milk producer for Kitchener market is Walter Bowman who, with son Don, lower photo, works in more traditional surroundings but with latest in milk storage and handling equipment. Tree frames conventional barn, below, on 200-acre Bowman farm where poultry and hogs supplement milk income.*





opportunity. He can then direct repair crews to the proper locations quickly and efficiently. The operations' recorder also provides a permanent record of what may be expected under a given set of circumstances.

By eliminating all but essential controls and equipment from the supervisory desk, Hamilton Hydro has solved one of the major problems of central control—the size of the installation over which the operator must preside. Under this system, bulky electronic equipment can be located in any available space with control circuits to the supervisory desk. With provision for 40 stations, the new supervisory control occupies considerably less space than four or five of the older control panels.

Another important facet of the system control modernization program is communications. Through the use of high frequency impulses, communication cable has been reduced to a single pair of low voltage cables capable of carrying several messages at the same time.

Although controlling only 11 substations at the present time, a replacement program is under way which will complete integration of the nine existing stations which are not presently included. Of course, each

new station will be added as it is built until the 40-station capacity is reached. An identical unit can then be installed adjacent to the present console with room to spare.

Combining the designer's art with the latest engineering skill, Hamilton Hydro has come up with a space-age supervisory control which will fulfill its own requirements for years to come and may well influence utility thinking in this important field. ■

*Operator Jim Muirhead keeps tab on the operation of 11 substations from this modernistic central control console at Hamilton Hydro. Combining advanced industrial design and latest electronic developments, desk will eventually supervise 40 stations.*



## CONTROL CENTRE OF THE FUTURE

Enough trenches to bury a small distribution system were dug and filled in during two-day equipment display. Group, right, watches small but versatile trenching machine which can double as a back hoe or bulldozer. Obviously pleased with the show, trio in lower photo includes, left to right: Doug Seath, Stratford, Adam Smith, Ontario Hydro and R. S. Reynolds, Chatham.



Officials, right, welcomed visitors to display at brief opening ceremonies. From left are: I. K. Sitzer, Ontario Hydro; C. V. MacLachlan, Ingersoll, chairman, display committee; Mayor F. J. Miller, Niagara Falls; John McMechan, Toronto, executive vice-president, O.M.E.A., and J. W. Hammond, Hamilton, vice-president, A.M.E.U. Exhibitors spared no expense to bring life and action to their displays as photo, below, suggests. This one used plastic pool to demonstrate clogless centrifugal pumps.



They came from as far as Alaska to see the A.M.E.U.'s

## ELECTRICAL UTILITY EQUIPMENT DISPLAY

more than two million dollars worth of equipment ranging from hard hats to back hoes and from pavement breakers to pruning saws came under the expert eyes of some 500 utility representatives at a recent demonstration and display sponsored by the Association of Municipal Electrical Utilities.

Held outdoors on the sun-dappled grounds of Ontario Hydro's Conference and Development Centre, Niagara Falls, the event drew 57 participating manufacturers and distributors who showed some 200 individual pieces of equipment directly adaptable to electrical utility operations. Technical and managerial personnel from utilities across the province made up the majority of viewers but one visitor was registered from Fairbanks, Alaska. Others included a 40-man delegation from New York and individuals from Nova Scotia and Manitoba.

In declaring the two-day show officially opened, C. V. MacLachlan, Ingersoll, chairman of the A.M.E.U. committee in charge of the event, said that it had a dual purpose. First, it provided utilities large and small with an opportunity to view the very latest developments in their own kind of construction and maintenance equipment in a single location. At the same time, the show relieved suppliers of the great expense involved in touring the province with their equipment.

Mr. MacLachlan stressed that supplier participation was by invitation



All eyes, opposite page, are trained skyward where equipment demonstrator in aerial basket, right, removes 60-foot diseased elm tree. As he progressed, using hydraulic chain saw and pruners, he gave a running commentary to spectators on the ground.



only and that all equipment had been carefully screened as to its suitability for utility operation. In his advice to potential buyers, he noted that much of the equipment, once selected, must be mounted on a chassis and that an arrangement existed whereby Ontario Hydro's Transport and Work Equipment section could be consulted in matters pertaining to vehicles.

Following the brief opening ceremonies, utility men commenced their careful appraisal of the show, which, to the uninitiated, is something of an eye-opener. Much more than a showcase of the sort in which new autos make their starry but static debuts, the A.M.E.U. equipment display is alive and dynamic.

At any one moment, trenching machines of assorted capacities will be slicing through the earth in half a dozen locations; groups of two to ten will be watching gasoline driven drills eating through concrete slabs and granite boulders imported for the occasion; tampers, like power-

driven pogo sticks, will be compacting freshly filled trenches, while, everywhere, giraffe-necked aerial buckets and other heavy equipment dressed up in toy-department reds, yellows and blues add to the carnival-like atmosphere.

Nor are all the performances of an impromptu nature. In one planned demonstration, a single man removed a 65-foot elm tree in half an hour. Working from a mobile aerial tower with a hydraulic chain saw, he explained each step to the large crowd below.

In another planned demonstration, a three-man crew using a radial arm derrick truck planted a 55-foot pole decorated with a transformer. The transformer and pole were then removed without the use of block and tackle. Elapsed time for this sequence of operations was about 40 minutes.

One exhibitor even erected a plastic swimming pool to show how his centrifugal pumps would operate without clogging on any solid small

*Articulated aerial platforms offered unexcelled vantage points from which to view spread of equipment estimated to be worth two million dollars. These giraffe-like sky probers and the great variety of digging equipment were among display highlights.*

enough to pass through the intake piping.

By far the best equipment display yet presented by the A.M.E.U., and one of the largest of its kind ever held in North America, this was only the second designed to attract association members from all parts of the province.

In explaining the background of the show, J. W. Hammond, vice-president of the A.M.E.U., recalled that it had its origin some six years ago with a regional display in Port Colborne. This led to the provincial show in Scarborough, in 1961, and with the need established for this kind of event it was decided it should be held every second year in various locations.

# SIGNS THAT INTERPRET BUSINESS

statistics on our industrial production are a tal commodity to the economist whose job is to warn us of the upswings and the down!

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by Gary Smith

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in the third millennium B.C., according to record, the ancient civilization of Babylon undertook to survey its manufacturing and agricultural production probably with a view to learning whether or not the reigning monarch was getting his fair share of the proceeds.

Ever since—with the exception of odd instances in history when his military or political ambitions got in the way of his economic and social aspirations—mankind has been coping, more or less intelligently, with the problem of trying to predict his own economic destiny on the basis of his ability to produce and market goods and services.

Annual stock takings of a nation's productive resources have long since become the order of the day in many countries, including Canada. But in the last decade or so, through his efforts for an even more immediate

appraisal of the state of his business, man has developed a system for reading the economic trend each month.

To do this, he has introduced the technique of seasonally adjusting figures. This simply means removing the effects of the seasons from the data. Where once he could only compare one month's production with that of the same month a year previously, he can now compare this month's production with last month's, or with any other month of this year or last year.

As one firm of consulting economists has put it: "Analysis has been taken out of the straitjacket of year-ago thinking."

Today, Canada's Dominion Bureau of Statistics publishes a monthly report called an Index of Industrial Production which does provide such seasonally-adjusted figures. It covers

mining, manufacturing, electric power and gas utilities and contains information on more than 80 individual series and industry aggregates. Many other series are also seasonally-adjusted by DBS, as evident in the S-section of the Canadian Statistical Review.

The wedding of these components into an industrial production index and the release of new figures each month fills a need in many of the nation's political, industrial and financial quarters for a valid indicator of economic activity.

Ontario, too, as Canada's leading industrial province, is now providing a monthly review of economic trends through the agencies of its Department of Economics and Development. Like the DBS index, it covers a number of factors in providing an economic indicator, seasonally-adjusted, for Ontario.

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*Now Ontario Hydro puts some useful new information in the hands of economists and business editors.*

*With the emphasis on speed in assessing the state of business, Ontario Hydro is providing an important new service on a monthly basis.*

**T**HIS month, Ontario Hydro inaugurates a new service for business and financial editors with first publication of a new economic indicator—the primary demand for electric energy supplied by the Commission each month. Primary demand is the total energy demand Ontario Hydro is called on to meet for its regular customers, excluding any special sales of surplus in "secondary markets."

The report, which is prepared from data compiled for the Commission's own guidance, will appear regularly in this magazine and be provided directly to all business editors on request, in the belief that it will be of considerable assistance to those who have a need to assess current business trends.

This is so for several reasons. First, primary monthly demand on Ontario Hydro is a good measure of the province's economic activity because the Commission generates more than 90 per cent of the electric energy used each month in Ontario. The figure therefore reflects very clearly the amount of electricity consumed each month by the province's industry,

business, farms and households.

Practically all changes in human activity are reflected in the demand for electric energy. We know when people get up, cook breakfast, watch television or go to bed. Similarly, changes in production are reflected by changes in the consumption of electricity.

It is true that the Dominion Bureau of Statistics and the Ontario Department of Economics and Development provide careful analyses of economic activity each month—one nationally and the other for Ontario. Each of these is based on a number of other components besides electric energy consumption.

Economists describe the primary electric energy demand figure as a coincident indicator. Unlike industrial produce of a different order electricity cannot be stored and must be used coincident with its production. And while other components making up the industrial index may be described as leading or lagging indicators of economic strength or weakness, it is this characteristic of electric energy that gives

## primary electrical energy demand A NEW ECONOMIC IN

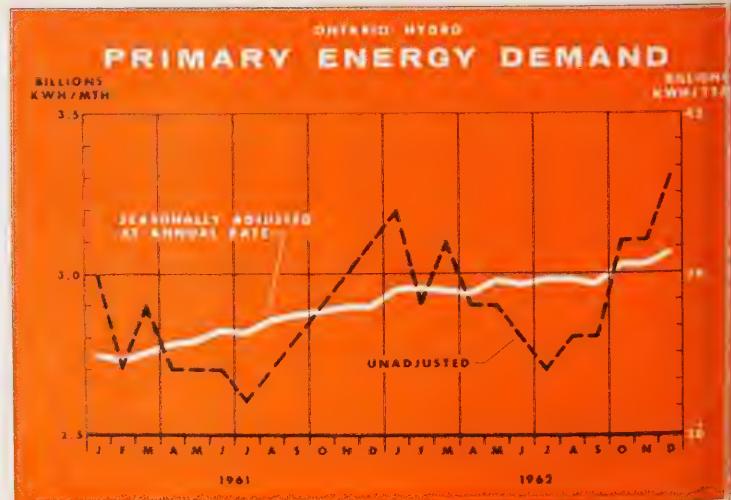
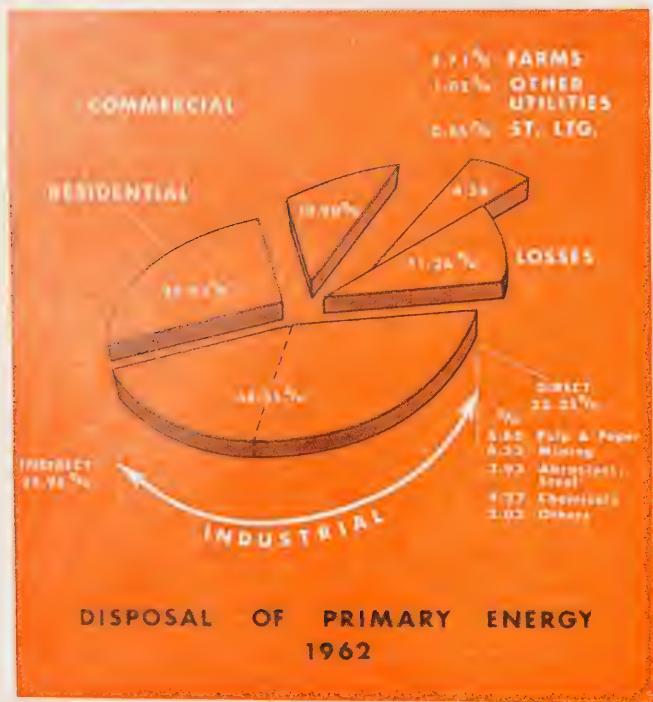


FIGURE 2  
The broken black line shows actual monthly primary energy demand during 1961 and 1962. Values differ from month to month because of varying weather conditions and different lengths of months. These effects have been removed by seasonal adjustment and in the white line the underlying growth pattern in energy demand can be seen. The white line should be read at annual rates (scale at right) or at monthly rates (scale at left).

FIGURE 1  
Shows how primary energy generated by Ontario Hydro is disposed

it a special value in relation to other factors.

There is one other aspect of this new economic indicator that makes it additionally meaningful and that is its immediacy. It can be published considerably in advance of corresponding data—as provided by DBS and the Ontario Department of Economics and Development.

As a measure of the significance of electric energy demand as an economic indicator for Ontario, *Figure One* illustrates the portion of electricity used in each section of the economy.

The new primary energy demand series will be produced in three forms each month. *Figure Two* shows the first—the actual monthly primary energy demand on Ontario Hydro, unadjusted in any way.

This series contains a seasonal pattern which reflects such things as differing periods of darkness and temperature and seasonal habits of customers. For this reason, the growth pattern in demand for electric energy is not readily apparent from month to month.

*Figure Two* also illustrates the second form—the monthly demand seasonally adjusted at annual rates. It is of interest to note here that the seasonal adjusting is carried out by means of an electronic computer program—the same program used, in fact, by DBS.

The third and final tabulation is indicated by *Figure Three*. It is the monthly demand on a seasonally adjusted basis but expressed in index form with 1949 equal to 100. Note the DBS industrial production index series which is included on the graph for comparison purposes.

All three forms are subject to some variation from factors not associated with the business cycle. For example, during a period of low stream flows, less generation will normally be produced by hydraulic resources and more from the Commission's thermal plants which are located close to large load centres. This has the effect of reducing the quantity of transmission loss and, consequently, the amount of energy which is to be provided.

Again, unexpectedly mild or abnormally cold weather during the

winter months can cause variations.

Since such variations tend to be random, they will, in time, tend to cancel each other out. In fact, the computer program for seasonal adjustment estimates that such irregularities will be self-cancelling within two months. In other words, a two-month moving average of the seasonally adjusted series will damp out the irregular fluctuations sufficiently to enable the underlying short trend to be distinguished.

The primary energy demand series, to repeat, is a roughly coincident economic indicator. It is heavily weighted by industries which are large consumers of electricity such as pulp and paper, abrasives and electrometallurgicals. (Note in *Figure One* that over 23 per cent of the total primary energy demand is in these industries.)

Because of this factor and because it can be published considerably in advance of corresponding data from other sources, the primary energy demand series should be useful as an early indication of the economic trend in Ontario. ■

# ICATOR FOR ONTARIO

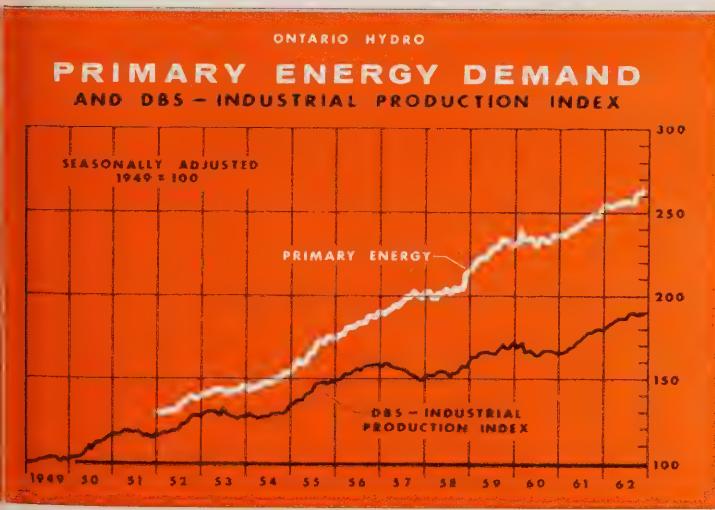


Figure 3  
Seasonally adjusted energy demand expressed as an index with 1949 being equal to 100, is shown over the period of 1952 to 1962, to illustrate longer growth and the effect of business conditions. For comparison, the seasonally adjusted DBS Index of Industrial Production (1949 = 100) has been shown. Growth in energy demand is generally much steadier. A jump in 1958 in energy demand is when several industrial strikes ended.

## FIGURES FOR MAY FORM FIRST REPORT

Primary energy provided by Ontario Hydro in May totalled 3.06 billion kilowatt-hours, an increase of four per cent over the same month a year ago. Primary demand for the first five months of 1963 was 15.8 billion kilowatt-hours, up 5.4 per cent over the same period in 1962.

Adjusted for seasonal influences, the primary energy demand figure for the month was 3.1 billion kilowatt-hours or 0.53 per cent higher than in April of this year.

The seasonally adjusted figure for May represents 37.1 billion kilowatt-hours at annual rates and this is 266.9 per cent above the energy demand in 1949.

*All-electric kitchen, lower photo, was appropriate choice for new Strathroy Middlesex General Hospital—first major hospital in Canada to be electrically heated. In photo right, commercial cooking experts C. A. Wright, Ontario Hydro, left, and George Exley, Toronto Hydro, break down restaurant costs.*



EATING out at the corner lunch-counter, or under the attentive eye of a maitre d'hotel has become as much a part of our dining habits as salt and pepper.

Restaurant patrons, however, seldom see beyond the swinging doors into the heart of the food service establishment—the kitchen. Yet it is in the kitchen where the reputation and success of a restaurant must be established and maintained.

The production-line efficiency essential in a commercial kitchen is almost completely absent from a household kitchen where, perhaps, 15 meals rather than 1,500 will be prepared in a day. Far from being just domestic kitchens on a larger scale, commercial kitchens are designed for the sole purpose of producing good food at a profit to the owner. Meals, high in quality and flavor, must be prepared under sanitary conditions in the shortest possible time, using a minimum of staff and floor space.

Helping the food service industry achieve this goal, through the use of commercial electric cooking equipment, has captured Hydro's interest during the past few years. In Ontario, the industry represents about seven per cent of total commercial establishments—certainly a good-sized

market. Of this, only about seven per cent is all-electric, and approximately 60 per cent is partly electric.

C. A. Wright, Ontario Hydro's commercial cooking specialist, expresses the potential market another way:

"Some 93 per cent of all food service establishments in Ontario are prospects for commercial electric cooking equipment. For the utility, revenue from this load averages about \$25 a kilowatt annually. Recent surveys have indicated that with a well planned promotional campaign forcefully carried out, revenue from commercial electric cooking may reach seven per cent of a utility's revenue in many areas, and approach 15 to 20 per cent of total commercial revenue.

Hydro's interest in this market is reflected in its sponsorship of commercial electric cooking seminars for members of the food service industry, and in its participating in Canadian Restaurant Association trade exhibitions.

Some 16,000 food service operators attended the 1963 C.R.A. show, at which Hydro presented on-the-spot demonstrations of commercial electric cooking equipment, including conventional, microwave, and steam. Guest chef for the week was John Robinson, executive chef of the



## What's

Sheraton-Connaught Hotel in Hamilton. Exhibition visitors sampled foods prepared during the demonstrations, which were designed to show how modern electric cooking equipment can help the alert food service operator improve services, increase profits, and reduce waste in food and labor.

According to Howarth and Howarth, prominent food service accountants, the breakdown of every dollar taken in by an average restaurant is: 45 cents—food; 27 cents—labor; 19 cents—overhead and miscellaneous; 1.5 cents—cost of cooking; 7 1/2 cents—profit. Because food and labor are by far the largest items of expense, these are the areas in which increased profits are most likely to be found.

With an all-electric kitchen a food service operator can increase his profit by cutting material and manpower costs substantially.

Electromation—a word used to describe the system for controlling mate-

*Hydro demonstration, right, at this year's Canadian Restaurant Association convention, was designed to show how electric cooking equipment could help commercial establishments increase their profits.*

rials, manpower and machines electrically—enables the food service operator to control material costs by using standardized recipes and by purchasing convenience foods. The functional design of preparation areas made possible by electromation reduces manpower costs as well.

The electric cooking equipment itself helps to reduce costs for manpower, materials and machines. Fewer skilled workers are needed to operate the electrical equipment, and the average life of electric cooking equipment is 20 years, double the life expectancy of other types of cooking equipment.

Intangible benefits of electromation and electric cooking equipment include: less meat shrinkage; consistently accurate thermostatic control; and lower costs for deep-fat frying. In terms of restaurant design, electric cooking equipment offers compactness and flexibility. The all-electric kitchen can be laid out in any convenient arrangement without concern for location of the flues or chimneys. Because there's no combustion, walls, upholstery and draperies stay cleaner. And, being more efficient, electric equipment gives off less waste heat, reducing air-conditioning costs.

The owner of an all-electric res-

taurant near Peterborough, Lorne Vandemark, speaks with authority and enthusiasm about the advantages of commercial electric cooking. A total of some 115 kilowatts of cooking equipment has been installed in his Fireside Bar-B.Q. Drive-In, which is also heated and cooled electrically. A heat pump is employed for year-round weather conditioning, supplemented by three stages of resistance heaters of 15.2 kilowatts each.

Mr. Vandemark owns a similar all-gas restaurant on Highway 115, north of Newcastle. Comparing costs for the two restaurants, Mr. Vandemark says, "It's a lot cheaper per square

## *ooking electrically?*



# HOT WATER BOOSTERS

**E**XTRA-HOT WATER for rinsing dishes has long been a problem in restaurants and other commercial kitchens.

Sanitation inspectors require a minimum temperature of 180 degrees F. for the final rinse water. Standard electric commercial water heaters provide an adequate supply of 140-degree water for food preparation, scrubbing and other uses in the kitchen, but heating all water to 180 degrees to obtain suitable rinse water would be impractical. Besides, 180-degree water would be too hot and even dangerous for many purposes.

Many commercial kitchens are solving the problem with an electric water heater booster. At a moment's notice, it provides enough 185-degree water hotter than the required minimum to rinse a load of dishes. In models designed for restaurants, normal 140-degree hot water flows through the booster unit, and its temperature is raised to 185 degrees. Larger kitchens,



*Extra-hot water for rinsing, as required by sanitation inspection, is provided by electric waterheater booster, bottom of photo, in "Fireside" all-electric restaurant, pictured below.*

such as in hospitals, may use an automatically controlled storage-type water heater booster.

Restaurant owners also find that 185-degree water from a booster unit speeds rinsing and drying by eliminating the need for hand towelling, and

ensures sparkling dishes and glassware.

To introduce restaurant owners to the advantages of an electric water heater booster, Ontario Hydro will, on request, install a unit free of charge on a two-weeks trial-basis. ■



toot to operate the all-electric restaurant. During December, for example, it cost me \$50 less for all services —heat, water, light, and cooking."

And so Hydro's efforts to have electricity put the sizzle in the steaks

served by Ontario restaurants continues. The 1963 objective is to add 12,000 kilowatts of electric commercial cooking equipment to the 138,000 kilowatts now estimated to be in service in Ontario. ■

*The best for less might be slogan of this fine restaurant near Peterborough where finest all-electric kitchen equipment is actually saving money for the proprietor.*

TOP hats and ermine are seldom in evidence when the curtain goes up on Hydro Showtime, but ever since the Commission's polished, two-hour electric appliance and cooking demonstration first hit the road in 1959, people have been flocking to the performance in town halls, schools, churches and community centres across the province.

Last year the show, put on by Ontario Hydro's Sales Division as a public service, and designed to acquaint the people of Ontario with the latest developments in electrical living, gave 100 separate performances before audiences totalling 20,000 persons. And the requests continue to pour in.

To keep up with demands, Showtime is put on by two teams of two. Des Tilson and Bill Hall, assistant sales service officers, act as masters of ceremonies, while home economists Lois Hurst and Barbara Woodall, or home service consultant Gwyn Reed handle the presentations.

The program usually includes a film, new product news, hints on the use of electricity in the home, and some comedy routines. To spark audience interest in the cooking demonstration, a free cook-book and other literature are provided.

Bookings are generally arranged through local municipal utilities or Ontario Hydro rural area offices. When a recognized service organization or other worthy group wants to raise money with Showtime, it contacts the local utility for a date and the well-oiled machinery starts to turn.

Hydro prints the posters and provides advertising and publicity. As sponsor, the local utility arranges for raw prizes and the major appliances to be used in the demonstration. The local organization is only required to



## SHOWBUSINESS HYDRO STYLE

*Having a good time is traditional at Hydro Showtime as photo, below suggests. Electrically-cooked hotdogs are being distributed at Mitchell performance amid laughter induced by Showtime m.c. Bill Hall in photo at left.*



ensure an audience of 150 (they've reached 700 on occasion), and print and sell the tickets.

The Showtime crews generally arrive the night before the performance and spend the day setting up and testing. Ingenuity is their watchword as conditions under which the show operates run to extremes. They've set up in church basements,

and once in a gymnasium during basketball practice. Work space behind stage is often about the size of a telephone booth.

Despite these problems, Showtime is a success in more ways than one. It's winning friends for Hydro, helping deserving organizations, and showing people the way to better living through electricity. ■

# AURORA HAS A BIRTHDAY PARTY

*Rich in history and with its future assured,  
Aurora has a lot to celebrate as it reaches its centennial.*

But it was steeped in history long before the event that inspired this year's celebrations.

Explorers like Etienne Brule, LaSalle, Joliet and Frobisher passed through this area. Brule, first white man to visit the site of Toronto, used the Humber-Holland portage, which passes a few miles west of Aurora, between Lake Simcoe and Lake Ontario.

Colonel John Graves Simcoe, first lieutenant-governor of Upper Canada, travelled the Humber-Holland route in 1793. Waist-deep in the mud of the Holland Marsh, he decided there should be an easier way and gave orders for a military road running north from muddy York to Lake Simcoe. This road became Yonge Street, now No. 11 Highway and the main artery of Aurora. The route was blazed by the Queen's Rangers, forerunners of Aurora's Squadron C of the Queen's York Rangers.

Growth was slow in the early years of settlement. A Quaker meeting house, built in 1811, still stands north of the present town as a memorial to that era.

A 25-mile drive up historic Yonge Street from Toronto will bring you to the outskirts of a boom town spilling over into new subdivisions and brimming with pride in its colorful past.

Your car flashes by a boldly-lettered traffic sign, "AURORA", and soon you are in the bustling business section where, this year, gay decorations and a blaze of lights proclaim the town's 100th birthday.

Aurora has a lot to celebrate. Since 1957 the population has more than doubled—from 4,386 to just under 10,000. It has more than two dozen local industries to help balance its residential assessment and ensure Aurora won't become a mere bedroom satellite of Metropolitan Toronto. And during centennial week the town will dedicate a new \$65,000 library.

The community of Machell's Corners took the name of Aurora, Roman goddess of the dawn, when it was incorporated as a village in 1863.

But in 1837 Machell's Corners was a lively centre, filled with sympathizers for William Lyon Mackenzie's rebellion. The community once staged a dinner to honor the rebel chieftain. Charles Doan, who later became reeve of Aurora in 1863, was imprisoned for his role in the uprising.

Two other noteworthy events occurred in the years before Aurora became a village. In 1853 the first train puffed up from Toronto. And in 1857, George Brown, editor of the Toronto Globe, raised the cry of "Rep by Pop"—representation by population—during a political speech in the Temperance Hall.

The years between 1863 and the late 1950's were marked by unspectacular but steady growth. But, since 1957, more than 1,200 homes have been built in two subdivisions. So Aurora, while glancing over a shoulder at its past, has its eyes firmly fixed on the future.

A man keenly interested in Aurora's past—and its future—is Don Glass, chairman of the local Hydro Electric Commission and chairman of the centennial committee. Another is H.E.C. Manager Charles Copland, also a committee member.

They have helped draft a program of events which will revive nostalgic memories during centennial week. These include a beard-growing contest, issue of leather "bucks" and commemorative medallions, a parade of vintage automobiles, a beauty contest and an old-time fiddlers' contest.

The RCAF will stage an air show and the U.S. National Aeronautics and Space Administration is sending a full-size replica of the Aurora 7 Mercury space capsule for display.

But the celebrations won't be confined to centennial week, says Mr. Glass. Virtually every 1963 event has been tied in with the town's 100th birthday, including the June horse show.

Dr. James Johnston, editor of the century-old Aurora Banner, is another centennial enthusiast. He says the celebrations are helping to weld the thousands of newcomers who have recently settled in the new subdivisions and the "older" residents into a stronger community, proud of its past and confident of its future.

Says Dr. Johnston: "The centennial has been good for Aurora."



parked by centennial observance, the \$65,000 Aurora library, top, was opened recently. Hydro Commission entered into spirit of occasion in many ways. In photo, centre, H.E.C. Chairman Don Glass chats with service men Gordon Lytle and Wilf Magee whose beards were grown for centennial. They are wiring new band shell. At right Sharon Spence touches up display of commemorative chinaware in H.E.C. office where she works.



## HYDRO REFLECTS PROGRESS

In keeping with the town itself, the Aurora Hydro-Electric Commission looks back on its achievements with pride and to the future with confidence.

As far back as 1913 the Municipal Corporation of the Town of Aurora signed an agreement with the Toronto and York Radial Railway Company for the supply of electric power. The latter was acquired by Ontario Hydro in 1920, but it was not until April, 1943, that the Town became a cost-contract municipality and the commission was established.

At the end of its first full year, the Aurora commission showed total consumption of about 3.8 million kilowatt-hours—last year it was about 30 million. During the same period, the number of customers rose from 925 to more than 2,800.

And a glance at the consumption figures in this progressive town confirms the close relationship which exists between the high use of electricity and low rates.

In 1944, with average monthly consumption of 169 kilowatt-hours per residential customer, the average rate was 1.38 cents. Ten years later, average consumption had jumped to 418 kilowatt-hours and the cost was down to 1.17 cents. Last year, per customer, use was up to 481 kilowatt-hours and the rate dipped to 1.14 cents.

Chairman of the three-man Aurora Hydro Commission is Don Glass. H. E. Hamilton, and Mayor K. Nisbet, complete the commission.



# along hydro lines



## NATO Group Visits Niagara

Representatives from every country in the NATO alliance took the opportunity provided by their recent Ottawa meeting for a post-conference tour of the Niagara area, including a visit to the Sir Adam Beck-Niagara No. 2 Generating Station.

During their 10-hour tour, the delegates, their wives and aides, witnessed a freighter locking through the Welland Canal at Thorold, visited the Hydro floral clock and the great whirlpool and viewed the Falls from several vantage points, including the Table Rock tunnel. For the latter trip, they donned waterproof clothing from head to foot like millions of sightseers before them.

The NATO delegates were greeted by Ontario Hydro Chairman W. Ross Strike at the information centre, where they viewed the film "History, Beauty and Power" before embarking on a tour of the generating station.

In the photograph, receptionist Mrs. Bessi Kinghorn explains intricacies of plant's control equipment to, left to right: Sir Evelyn Shuckburgh, United Kingdom; Health Minister Judy LaMarsh and Mayor Franklin Miller, Niagara Falls; Mr. Strike and Dr. H. N. Boon of the Netherlands.

## Hydro Orders Giant Transformers

A contract valued at \$1,450,000 has been awarded to Canadian Westinghouse for the manufacture of two giant transformers required by Ontario Hydro to link the new extra-high-voltage system in Northeastern Ontario to the provincial grid. They will be installed in a new transformer station at Hanmer, a few miles north of Sudbury. Delivery is scheduled for 1965.

The 300,000 kva, three-phase auto-transformers

will step down power from 500,000 to 230,000 volts. Although the EHV line will reach as far south as Toronto by 1966, part of the power will be taken off the circuit at Hanmer to supply the northern part of the provincial power grid.

## Optimistic About Nuclear Power

Delegates to the third annual conference of the Canadian Nuclear Association, held in Montreal last month, heard reports on operating experiences at nuclear-electric power stations in Canada, the United States and Russia, as well as numerous scientific papers and panel discussions on nuclear matters. The reports, which reflected the growing optimism of world scientists for future developments in the peaceful application of atomic power, indicated that nuclear electric generating stations were entering a competitive phase.

Lorne McConnell, Ontario Hydro's Nuclear Operations Engineer, described early operating experiences at N.P.D., Canada's first nuclear-electric power station. "Costs of operation and maintenance," said Mr. McConnell, "have been close to the estimate, and because the early performance has been most encouraging our program is proceeding with even greater confidence."

The station now provides information applicable to the design, construction, and operation of similar, but larger, nuclear electric stations, such as the Douglas Point project.

A dozen countries were represented at the three-day conference and exhibition attended by 268 delegates. The conference was opened by Ian F. McRae, Chairman of the Board, Canadian General Electric Company, and President of the Association. Mr. McRae, who was re-elected to office during the conference, indicated that the Canadian nuclear power program had attracted considerable attention in world power circles and that energetic steps were being taken to promote the Canadian-type reactor in international markets.

## CSA Activities Widen

In its annual report published recently, the Canadian Standards Association notes that "a growing interest in establishing minimum standards of performance, uniform to all provinces and acceptable in all markets", is broadening the scope of its activities which, in the beginning, were concerned primarily with safety.

The report commends a trend on the part of manufacturers and retailers to advertise specific articles as "CSA Certified" or "CSA Approved". "Not only does the statement give assurance to the consumer, but our manufacturer clients will benefit when an enlightened Canadian public insists on seeing the CSA label before purchasing."

Oldest and still largest in volume of work is the Association's Electrical Approvals Division. In 1962, this division processed 5,300 applications for approval. Active agreements are in effect with some 7,000 manufacturers of electrical equipment throughout North America and overseas.



*With his hand upraised, Premier John Robarts guides crane operator at Port Weller Dry Docks as he lowers 13-ton keel section for cargo vessel into place. Vessel will be used, primarily, to transport Cape Breton coal to Hydro thermal plants near Toronto. Special guests, below, watch proceedings.*



### **Giant Cargo Vessel to Carry Hydro Coal**

With one eye glued to the guiding hand of Premier John Robarts, a crane operator at Port Weller Dry Docks recently guided a 13-ton keel section into position to formally commence construction of a 680-foot-long coal carrier.

Premier Robarts was presiding at keel-laying ceremonies of a 22,000-ton-capacity cargo ship being built for Upper Lakes Shipping Limited, primarily to transport coal from Nova Scotia to Ontario Hydro's thermal-electric generating stations in the Toronto area. Earlier, Ontario Hydro had awarded a contract to the Dominion Steel and Coal Company which involves the transport of 2,850,000 tons of coal from Cape Breton over a five-year period.

Self-unloading, the new ship will be the largest ocean-going vessel capable of going through the St. Lawrence Seaway. It is scheduled for completion early next spring.

The keel-laying ceremonies were attended by officials of the Ontario Government, Canadian Maritime Commission, St. Lawrence Seaway Authority, Dominion Steel and Coal Company, Ontario Hydro and local municipal representatives.

### **Heaters Without Water?**

Selling refrigerators to the Eskimos is a cinch compared to winning electric water heater customers among folk without water—but this situation didn't phase the sales personnel of Eastern Region. When a survey indicated that 46 per cent of farm customers in the Perth area were without piped water, they helped promote package units which include the water heater with the pressure system itself.

Some 500 persons were attracted to a two-day exposition in the Perth Town Hall where an agricultural representative outlined the importance of water on the farm; Ontario Hydro home economists gave a cooking and laundry demonstration; and a Farm Loan Board representative explained how

financing was available for water systems. Exhibits were set up by leading manufacturers of water pressure systems.

In addition to supplying dealers with direct sales leads, the exposition provided a first class opportunity to acquaint rural customers with the wide applications of electricity on the farm.

## **LOAD-BUILDING**

Sarnia Hydro employees and their wives were brought up to date on the competitive situation facing their utility at a recent get-together at which commission Chairman C. J. Spicer put the emphasis on water heating as the field in which the challenge was strongest.

"Our chief challenge in the domestic market is the water heater load," Mr. Spicer said. "In Sarnia, an average residential customer without an electric water heater uses 250 kilowatt-hours per month. For this he pays \$4.05. His cost of electricity per kilowatt-hour is 1½ cents. An average residential customer with an electric water heater uses 650 kilowatt-hours per month for which he pays \$6.57. His cost of electricity per kilowatt-hour is reduced to one cent."

The Sarnia Hydro chairman pointed out that the utility received 62 per cent more revenue per year from the customer with an electric water heater than from a customer who did not use electricity for this purpose. The customer, he continued, was able to buy 160 per cent more electricity for an increase in cost of only 62 per cent.

In explaining how these bargain rates were possible, he said the cost of building and operating the electrical distribution system was about the same whether or not the customer had an electric water heater. Too, since the cost of meter reading, rendering the bill and collecting the account was the same,



Sarnia Hydro Chairman C. J. Spicer, right, joins Mrs. L. J. Robillard and Don Ramsay, Ontario Hydro, in examining "Hydro Special" refrigerator-freezer display at staff get-together.

only the cost of the electrical energy need be charged against the extra revenue obtained from the water heater.

"Times have changed," Mr. Spicer concluded, "and promoting the use of more electricity must become a part of Hydro's normal job from now on. This is not a duty which can be delegated only to a few people in our organization. As Hydro employees, our opinions influence other people with whom we have contact from day to day. The support of every member of our staff is significant."

Guest speaker Don Ramsay, Consumer Service engineer, Western Region, told his Sarnia audience that any utility engaged in a load-building program should communicate its aims fully and completely to all members of the staff. Only in this way could employees be expected to support the full use of electrical appliances and serve as an example of the electrical way of living.

It was Mr. Ramsay's opinion that to enforce the use of electrical appliances by employees through regulations, or to purchase their loyalty through subsidization was not only insulting to their intelligence, but ineffective. He thought much better results could be obtained through communications which create an awareness on the part of the employee that he is a member of a team working towards a common goal to the benefit of all.

## Heat Pump Savings

Speaking before a recent meeting of the Electric Club of Montreal on weather conditioning with the heat pump, I. S. Widdifield, Ontario Hydro's manager, Commercial and Industrial Sales, said there were three large office buildings under construction in Toronto which will be heated by heat pumps.

"One is a 16-storey medical profession building," he said, "and the consulting engineer has told me that sufficient money was saved on the initial cost of the equipment over a fossil-fuel-fired system to completely double glaze the building and to increase the illumination to 100 footcandles throughout."

"In addition to this," he said, "operating costs of this heating system are expected to be \$1,500 a year less with electric heating than they would have been with other types of fuel."

## Hydro's TV Series Wins Important Award

Hydro's television program 'Biography', won a Peabody Award in the 'Education' category for 1962—the first syndicated series to gain the honor in the 23-year history of the prize.

Last year, this category was shared by the BBC's "Age of Kings" and NBC's "Van Gogh: A Self-Portrait."

A syndicated series is a filmed or kinescoped series independently produced and sold to a variety of sponsors and stations.

Seen on 13 Ontario stations, Biography is sponsored by municipal Hydro systems and Ontario Hydro. Queen Elizabeth, Edison, Churchill, Stark and Ben-Gurion are among the 38 international figures whose lives are recreated on the program.

The Peabody Awards are administered by the University of Georgia. Newspaper reviewers, educators and publishers serve on the awards committee, headed by Bennett Cerf, president of Random House, Inc.

In the photo, Ontario Hydro Chairman W. R. Strike, right, accepts the award from Dana Murray, All-Canada Radio and Television.

## All-Electric Inn

Georgian Bay visitors and travellers will be able to enjoy the ultimate in all-electric comfort on their stop-overs in the Barrie area thanks to the "Continental Inn" motel and restaurant recently opened by Mr. Lorne Jackson.

Each of the 38 units in the motel, just off Highway 400, has electric baseboard heating with individual room thermostats as well as central control. In addition, each bathroom has an 800-watt radiant heater which is suspended from the ceiling and operates on a mechanical timer. The motel units are air-conditioned and have a central exhaust system which keeps the rooms and corridors fresh and odor free.

Along with the motel, a large commercial build-



Special guests at ribbon-cutting ceremonies, to mark opening of Continental Inn, Barrie, included, from left: Dr. J. E. son, chairman, Barrie P.U.C. and District 2 O.M.E.A.; J. McHattie, Department of Travel and Publicity; Mayor Cooke, Barrie; R. J. Boyer, 2nd vice-chairman, Ontario H

provides dining facilities for 250 people, and includes a lounge and coffee shop. Among the electrical features of the kitchen are 150 kilowatts of electric cooking equipment and a 45 kilowatt booster in the dishwasher for 180-degree rinse water. A convention hall accommodates up to 450 persons.

A complete electric paging system and piped music throughout are additional electrical features. Outside, a heated swimming pool equipped with the latest in illumination adds to the enjoyment of guests. ■

#### C. Hydro Lets

#### 3 Million Contract

One of the largest single contracts ever let in Canada was placed recently by British Columbia Hydro and Power Authority for the construction of an earth-filled dam on the Peace River. Valued at \$73,558,648, the contract involves construction of a 600-foot-high dam, 1 1/4 miles long, at Portage Mountain about 160 miles north of Prince George.

Letting of the dam contract is the second major step toward a hydro-electric project the eventual cost of which has been estimated at \$800 million. This summer, work will start on diverting the river into three 2,500-foot-long tunnels now being built through Portage mountain at a cost of some \$17 million. ■

#### Rex Martindale es at Sudbury

One of the north's greatest champions and a Hydro pioneer in the finest sense of the word, R. H. (Rex) Martindale died recently in Sudbury. He was 83.

Born in Alliston, Ontario, Mr. Martindale went to Sudbury as manager of the town-owned electric system in 1902, and he remained in charge of the city's Hydro service until his retirement in 1953. The Sudbury Hydro-Electric Commission was set up in 1936. He was also superintendent of the Sudbury waterworks department from 1908 to 1957.

Speaking before a joint annual convention of the O.M.E.A. - A.M.E.U. several years ago, John Fisher said that men like Mr. Martindale, who went north at the turn of the century, "performed an act of faith in Canada." When Mr. Martindale took over the Hydro system in 1902, Sudbury had a population of 2,500 and all of its electrical requirements were supplied from a 75-kilowatt steam plant owned by the municipality.

At his Hydro retirement, in 1953, the population was over 46,000 and the electrical load was in the vicinity of 22,000 kilowatts.

Quiet and unassuming as Mr. Martindale was during his half century of municipal service, few men have been accorded fuller recognition. A road and public school bear his name, while, in 1951, Ontario Hydro renamed a key transformer and frequency changer station in his honor.

A member of the A.M.E.U. since its inception, Mr.



Martindale served twice as its vice-president before attaining the presidency in 1953. He was awarded one of the association's highest honors—an honorary membership. A trustee of the Canadian section, American Waterworks Association, he was named chairman of the section in 1949.

Active for many years in the Sudbury Rotary Club and Masonic Order, Mr. Martindale was also a staunch church supporter and was a member of the choir of St. Andrew's United Church for more than half a century.

In poor health for the past two years, Mr. Martindale had been confined to hospital for six weeks prior to his death. Among his survivors are two daughters, Mrs. Lawrence Mantle, Chapleau; Mrs. Douglas Dennes, Sudbury; and two sons, Charles and William of Sudbury. ■

## MUNICIPAL BRIEFS

**Facts About Electric Wiring** for the home was the title of an eight-page folder included in a recent mailing of North York Hydro bills. The stuffer included a schematic diagram illustrating full housepower and the 100 ampere, 20 circuit service entrance. In the simplest terms, it described how electricity is distributed throughout the home and how modern electrical living is dependent on adequate wiring.

**O.M.E.A. Representatives** on this year's board of directors of the Electric Service League are N. R. Craig, Burlington; E. J. Bryant, Whitby; Ted Dash, Sudbury and W. J. Fisher, New Toronto. A.M.E.U. representatives are H. A. Luckins, Sarnia; S. R. Walkinshaw, Orillia and T. J. Curtis, New Toronto.

**To avoid delay**, Essex council is asking the Department of Municipal Affairs for permission to increase P.U.C. membership from three to five in the light of increased commission business and responsibility. With the recent resignation of Chairman James Peckett, all decisions were left to two members, one ex-officio.

**Twelve students** of Mimico elementary and secondary schools, who were winners at the local level of the Ontario Public Speaking contest, received handsome silver trophies and a conducted tour of the St. Lawrence area — courtesy of Mimico P.U.C.

**Brampton Hydro** estimates it saved some \$13,000 by using its own personnel in the recent construction of a substation. Previously, they had been built under contract.

**Sault Ste. Marie P.U.C.** is planning to build a \$400,000 service centre which would provide additional garage, warehouse and office space.

**It pays to advertise.** When Listowel P.U.C. found three transformers on its hands as the result of replacing a substation, it found a willing buyer in Harriston Hydro whose transformer capacity is also being increased. Harriston offered \$7,500, which, it said, was the value established by Ontario Hydro in a re-

cent assessment. Commented Listowel Commissioner Tom Moffat: "You fellows are sharp traders. Our price originally was \$8,000 but we won't argue with Consumer Service for \$500."

**Cost of purchasing** distribution facilities in the area recently annexed by Beamsville will be about \$58,000, most of which the local commission will obtain through debentures. Target date for the takeover is September 1.

**How to get** the greatest interest return on commission funds not required for day to day operations is a problem being considered by Peterborough Utilities Commission. Guaranteed investment certificates or term bank deposits were recommended as being more remunerative than the current accounts presently in use.

Seventy-three delegates from 19 municipal utilities and Hydro systems in Northeastern Ontario attended the recent meeting of District 9, A.M.E.U. H. L. Harris, Sault Ste. Marie, was named president. Other directors elected were: D. R. Stewart, Cache Bay; O. W. Harris, North Bay; C. W. Patten, Ontario Hydro; Grant Marshall, West Ferris; Gerald Delaney, Espanola and E. C. Snook, Ontario Hydro.

**North York Hydro** estimates its capital expenditures for 1963 at \$3,431,000. Major items include some half million dollars for water heaters for rental purposes, and two and a quarter million dollars for extensions and improvements to the electrical distribution system. Debentures in the amount of a million dollars will be issued for this purpose.

Personalities in the news include *Dr. E. V. Buchanan*, manager of London P.U.C. from 1914 to 1952, who was elected an honorary member of the Engineering Institute of Canada at the recent annual meeting of the Institute in Quebec City. *Jack McLennan* has resigned as chairman of Brockville P.U.C. Vice-Chairman *Alan Greene* becomes chairman for the balance of the term. Ayr Hydro Superintendent *A. E. Clark* has retired after 27 years service. *Walter Scott* was appointed his successor. Exeter P.U.C. recently honored *W. G. Cochrane, Q.C.*, for his 10 years of commission service. Mr. Cochrane was named Huron County crown attorney last year. *E. A. Vigars*, Port Arthur, is the new president of District 3 A.M.E.U. *B. Toth*, Fort Frances, is vice-president. ■

## A.M.E.U. Honors G.R. Davis

Honorary membership—one of the Association of Municipal Electrical Utilities' highest honors—was bestowed on G. R. (Cap) Davis of Kingston at a reception there last month.

The general manager and chief engineer of Kingston P.U.C. is a former president of the A.M.E.U. and one of its staunchest contributors. More than 40 people were on hand at Kingston's Cataraque Golf and Country Club as Mr. Davis received an illuminated scroll from R. S. Reynolds of



Chatham, chairman of the A.M.E.U.'s president's council, and a gift of cuff links from Fred York of Ottawa.

Some of Kingston's most prominent citizens were on hand to pay tribute to Mr. Davis.

In the photo above, Mr. Davis (centre) chats with Mr. Reynolds (left) and J. M. Hambley, general manager of Ontario Hydro, following the reception.

## Nuclear Plant Tie-in

Construction of a steel-tower, 230,000-volt transmission line to link the Douglas Point Nuclear Power Station with the Ontario Hydro system near Hanover has commenced. Cost of the contract, awarded to Patricia Transportation Company, is approximately \$260,000.

Agreements covering property rights with approximately 100 property owners along the 31-mile route have been reached and the line is scheduled for completion in October of this year. When the Douglas Point station is in operation, in 1965, its output will be delivered to the provincial power grid through the Hanover Transformer Station.

## Hydro Engineer

### Joins UN Study

Ontario Hydro's world-wide reputation in the hydroelectric field has again been recognized with the appointment of Frank Grosvenor, senior standard engineer, as chief design engineer for a phase of study of Brazil's electric power resources sponsored by the United Nations.

Mr. Grosvenor's services were requested by Canbra Engineering Consultants of Nassau.

Commenting on the request, Ontario Hydro Chairman W. Ross Strike said, "We are pleased when it is possible to contribute some of the experience gained by Ontario Hydro in many years of intensive hydro-electric development to the utilization of the important resources in other lands." He noted that Ontario Hydro engineers and technical personnel were now on loan to Ghana, Pakistan, Iran and Lebanon.

Mr. Grosvenor has been granted a leave of absence for the period of the UN study, estimated at 18 months. The Brazilian study is to prepare a program for economic development of power generation and transmission facilities to meet anticipated demands for electricity over the next 15 years.

# OFF THE WIRES

If memory serves us correctly there was something less than one hundred per cent agreement on the merits of artist Harold Town's mural when it was unveiled in the observation lobby of the Robert H. Saunders - St. Lawrence Generating Station. But if there was controversy, it remained on a less dispassionate level than was the case when Hydro Quebec ventured into the dangerous realm of abstract art. In this instance, the artist ended up in court.

The charge against Jean Paul Mousseau was laid by Claude Theberge who told the court he paused to look at a 70-foot mural made of fibre glass and neon lights by Mousseau in the new Hydro Quebec building in downtown Montreal. According to his testimony, he studied the work for a few minutes, stepped back for another look and then muttered: "What kind of a crazy fool did a thing like that?" The next thing he knew, he said, he had been knocked on the seat of his pants by the artist who happened to be standing behind him.

It's all very well to criticize art, it seems, but it's a good precaution to look in all directions before giving voice to your impressions.

Any thought that labor leaders could run out of things to ask for in our affluent society is dispelled by some of the latter-day thinking in union circles. In New York, not so long ago, electricians downed tools in support of their demand for a 20-hour week with no loss in pay. Lifetime job guarantees have also appeared on bargaining agendas and three months vacation with pay after 15 years was the objective of one employee's organization.

More recently, the United Steelworkers of America announced a plan to celebrate Canada's cen-

tenary in high style — a three day holiday with pay. According to a Toronto Star report, the union wants contracts to provide that anyone working over the proposed holiday, July 1, 1967, should get triple pay in addition to regular wages.

When electric toothbrushes first came on the market they were greeted with loud guffaws but perhaps this derision was a bit premature. Our own dentist uses one and Charlie Crease, Consumer Service Engineer, Central Region, in exhorting Hydro personnel to "talk-up" new developments in the electrical field, told of an acquaintance who found that massage with the electric tooth brush was a big help in overcoming his gum trouble. True, \$15 seems a lot to pay for a toothbrush but have you priced a good set of uppers and lowers lately?

Walter Scott, newly appointed superintendent of the Ayr Hydro System, is a man whose word is law. In addition to his position with Hydro, he will serve as village police constable. Mr. Scott has 10 years of Hydro experience, four with Ontario Hydro and six with Waterloo P.U.C.

And on the subject of law, it would seem wise to avoid getting into a legal hassle with the London Public Utilities Commission. Three of its members are lawyers. Burlington P.U.C., on the other hand, leans toward science. In addition to the manager, three of its commissioners are professional engineers.

To a woman driver goes the distinction of being involved in Canada's first automobile accident, according to the Ontario Motor League. A car driven by a Mrs. P. W. Ellis was in a three-way crash with a wagonette and single

rig, both horse-drawn, in 1902, in Toronto. A contemporary newspaper account of the story said:

"In the crash, one of the occupants of the wagonette was thrown out. In his fall, his feet were caught in the spokes and he was twisted about the wheel three times.

"Eye-witnesses ran forward to release him, expecting to find a corpse, but before they reached him his feet had been freed from the spokes and he was up and after the horse." No charges were filed.

So the old argument about which sex is the best driver got an early start. Philip W. Ellis was first chairman of Toronto Hydro.

Commenting on an article which appeared last year in Hydro News wherein we suggested that the little leaf linden was more suitable to an urban environment than maples, elms and other forest giants, the Orangeville Banner has this to say:

"No doubt in the interests of efficiency we should cut down all the maples in our towns and cities — and replace them with smaller trees. But for many Canadians the maple has a sentimental interest and a grandeur that outweighs any inconvenience to utility employees. One additional thought — we cannot imagine singing: 'The little leaf linden, our emblem dear, 'The little leaf linden forever . . .'"

The Banner has a point there but we would suggest that utility employees don't mind the "inconvenience". They do dislike disfiguring trees with excessive pruning, which is sometimes necessary, and it costs money to keep the big trees at bay. Anyway, "The little leaf linden, our emblem dear" doesn't sound too bad — we were going to recommend the mophead catalpa. ■



## TOUR FACILITIES

If you are travelling Ontario's highways and byways this summer, your family might enjoy a visit to one of Hydro's three big hydraulic stations where tours are provided, or the information centres at Canada's first two nuclear power plants.

**ROBERT H. SAUNDERS-ST. LAWRENCE G.S.** One-hour tours every day from 9: a.m. to 4 p.m. until June 27, and 9 a.m. to 7:30 p.m. until Labor Day. Hours for the balance of the year are from 9:30 a.m. to 4 p.m. on weekdays, and 1:45 p.m. on weekends. The tour includes inspection of the plant and a film on construction. Tours start from the Administration Building on the western outskirts of Cornwall.

**SIR ADAM BECK-NIAGARA G.S. No. 2** One-hour tours every day from 9 a.m. to 4 p.m. Visitors are shown a 27-minute film and taken by elevator through rock walls to the bottom of the cliff where they can inspect the control room and view the generators.

**DOUGLAS POINT N.P.S.** An information centre with a reception building, lookout platform and a 150-seat auditorium is open on a daily basis for ease visitors from 10 a.m. to 5:30 p.m. until September 15. After that the centre will be open on Sundays only from 1 to 4 p.m. Films on the Canadian nuclear power program are screened regularly.

**NUCLEAR POWER DEMONSTRATION (NPD)** An information centre at Canada's only operating nuclear power plant near Rolphton is open every day from 9 a.m. to 5:30 p.m. until September 15. Films are used to explain the principles of operation.

**DES JOACHIMS G.S.** One-hour tours every day from 9 a.m. to 4 p.m. during July and August. Tours begin at the Lookout on Highway 17, northwest of Pembroke, and include inspection of the plant.

\* Special tours may be arranged for these stations and other Hydro installations including the giant Lakeview thermal plant on the western outskirts of Toronto.

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# ONTARIO HYDRO NEWS

JULY-AUGUST, 1963

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Photo story of the Niagara Glen commences on page five of this issue.



Canadians are a roving lot and many of them are taking time out on their summer travels to acquaint themselves with Ontario Hydro's mammoth power developments. For a rundown of the most interesting and accessible projects and the facilities the Commission has provided for the convenience of visitors, read "Hydro Plays Host" on page 12. ■



Stripped for action, these delegates were among the hundreds who gathered recently in Windsor for the Association of Municipal Electrical Utilities' summer management conference. Subjects discussed ranged from public relations to portable pensions. Some are recounted in this issue, commencing on page 17. ■

JULY-AUGUST, 1963

## ONTARIO HYDRO NEWS

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### THE COVER

Bird depicted on this month's cover by staff artist John Elphick is a pretty rare specimen but, if he existed, it would probably be the Niagara Glen. Photographer Ted Johnston takes us on a tour of this delightful nature sanctuary, commencing on page five.

HYDRO NEWS, VOL. 50, NO. 7 and 8

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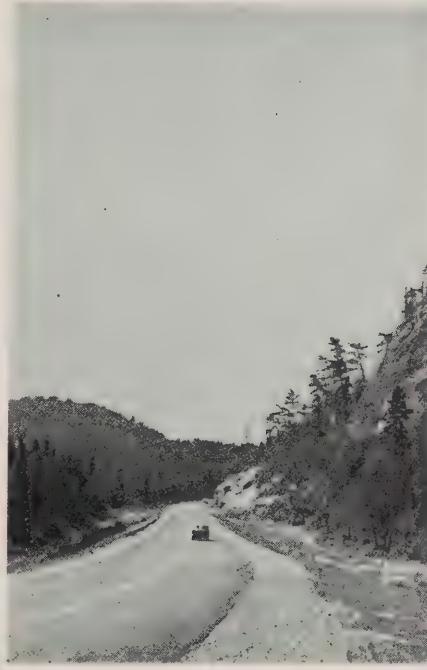
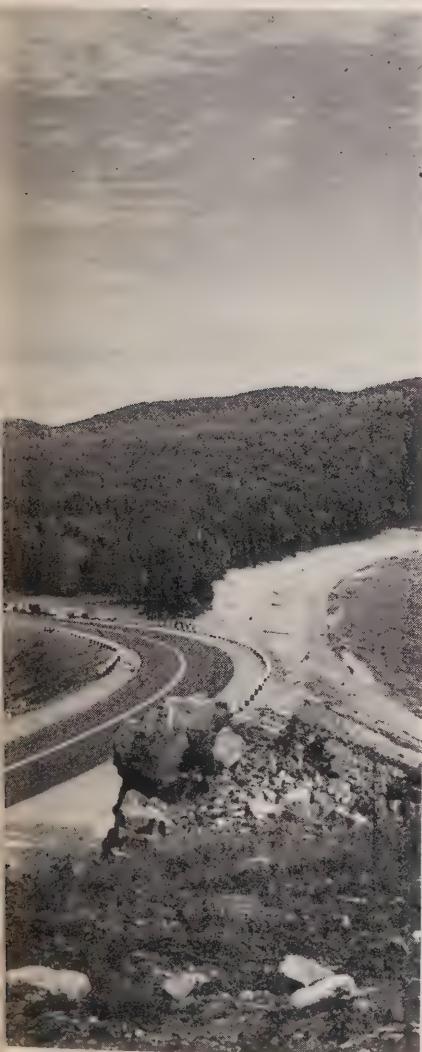




TRAVEL AND PUBLICITY PHOTOS



# the NORTHWEST PASSAGE



Progress leads to added development; any kind of economic breakthrough encourages more of the same

*(Continued)*



—and nowhere has such a continuing circle nourished itself so dramatically or so consistently as in Ontario's northwest.

The rugged beauty of its 95,000 square miles has yielded many diverse benefits to Ontario, its people and its visitors, largely in the last 20 years. It has surrendered, reluctantly, its privacy, its timber and its minerals.

But in the case of its water-punctuated grandeur, it has lost nothing. Its siren call increasingly attracts nature-lovers, hunters, and fishermen, to make tourism a high-ranking industry. This year is already shaping up as a third consecutive record year, with nearly 500,000 visitors expected.

Tourist records began to topple with the opening in 1960 of a 165-mile stretch of Trans-Canada Highway 17 from Agawa Bay (95 miles north of Sault Ste. Marie) to White River. The closing of this gap cost \$40 million, and such gaps are constantly being closed.

For the new section, the Province cleared almost 3,000 acres, much of it virgin bush; in many places it was necessary to blast the road out of

solid rock; the southernmost five miles cost a staggering \$325,000 per mile.

Besides making new areas available, the section of highway makes the route from Sault Ste. Marie to Nipigon a direct north, then northwest, route. Before it was opened, the trip included North Bay, far to the east; Kirkland Lake, Kapuskasing and Beardmore—all inland on Highway 11.

The new route lies along and often high above Lake Superior, through four provincial parks, including a new one between Marathon and Terrace Bay, part of the strip across the top of Lake Superior, where the motorist can look out on the lake or down on a cross-country train. Terrace Bay and Schreiber each have new

motels in their first season of use.

There's virtually every kind of summer outdoor activity. Northwestern Ontario is famous for pike, pickerel, bass, trout, moose, deer and bear; campers find no shortage of planned facilities. At several points on the Lake Superior route there are "bulges" in the pavement where a motorist can park for a leisurely look at the scenery.

Highway construction has given access to countless attractions which once could be reached only by plane —plus some that could not even be reached from the air.

A little more than a year from now, a second great gap will be



closed—the 90 miles from Atikokan to Fort Frances. Then the Lake Superior route will lie along Highway 17 from Sault Ste. Marie to Fort William, and Highway 11 from the Lakehead to Fort Frances.

All three major manifestations of progress—indeed, makers of progress—have played major roles in the booming tourist trade.

Electricity, unseen and taken for granted in older urban areas, has brought comfort and conveniences to the visitor. In the Northwestern Region, Hydro has ten hydraulic generating stations on five rivers, with a total installed capacity of 608,100 kilowatts; just over 2,300 circuit miles of transmission line carries electricity to customers through the Northwest.

Roads connecting with Southern Ontario, Minnesota and Manitoba have made the great northwest accessible to thousands. In several areas

says the Ontario Department of Highways, traffic has more than doubled in the past three years.

And industry cannot be overlooked as contributing to longer stays by tourists. Few city-bred travellers can resist side trips to see molten gold flowing, or the transformation of wood to paper.

While roads and electricity come before travellers, either can lead and inspire industrial development before they become fact.

Ontario Hydro's commitment to provide power at cost augments the wide, ready availability of electricity in encouraging new industry. Industry can locate virtually anywhere in Ontario and know, in advance, that the power will be there. Electricity contributes to the efficiency of indus-

try and helps prolong the profitable life of a mine.

From the view of access by road, the "Roads to Resources" program of the Provincial and Federal governments gives much of the same assurance for mining, timber and other resource industries.

Occasionally, the province takes over an access road built by others. An example in the northwest would be Hydro's road from a point near Goldpines on Highway 105 to Manitou Falls G.S., taken over in 1961.

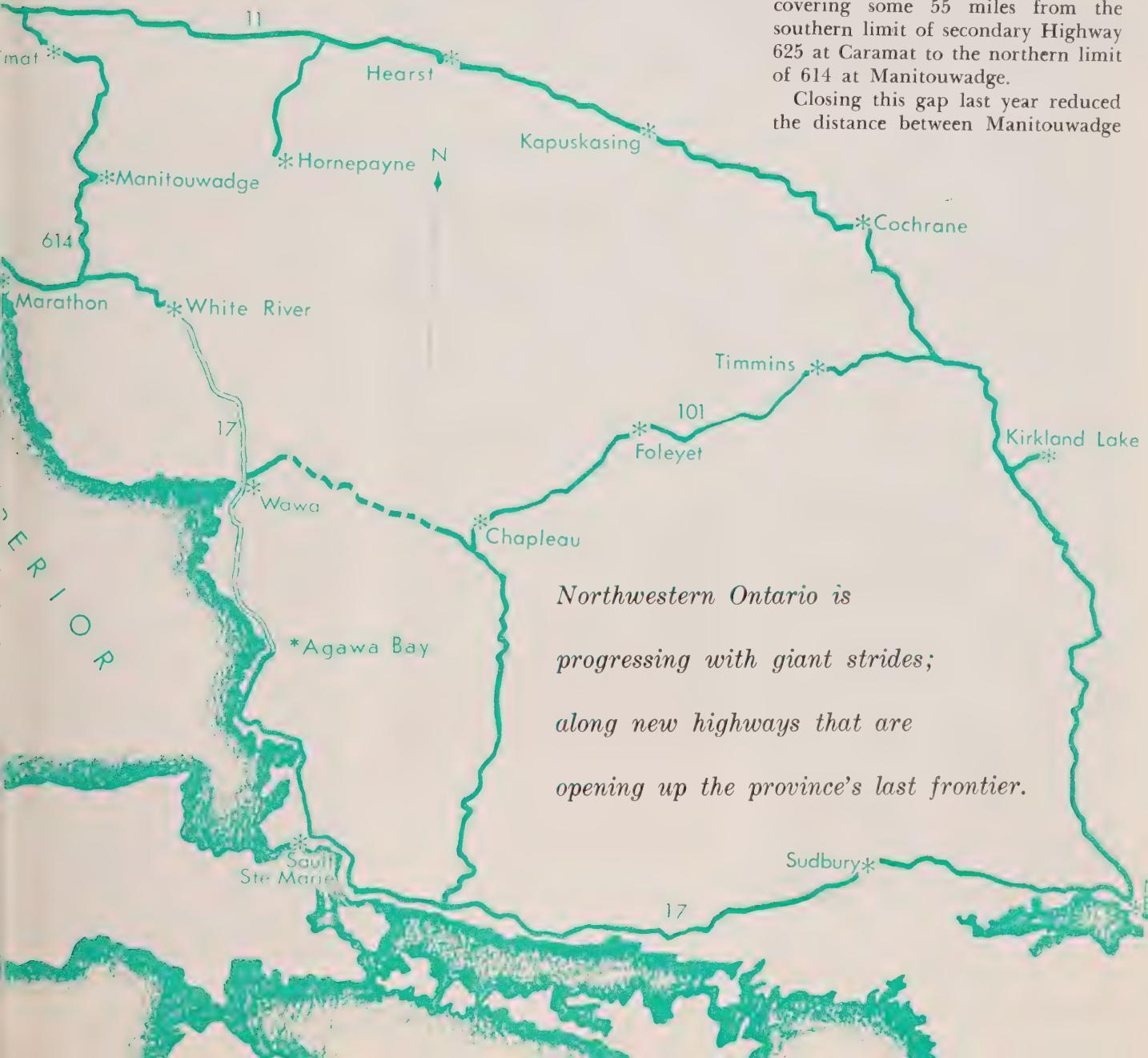
Several aspects of development in

Northwestern Ontario are typified in Manitouwadge, a copper mining town of about 3,000 mid-way between Highways 11 and 17. All of its wage-earners are employed by either Geco or Willroy mines, both of which produce copper and zinc. This month Geco began a new 4,000-foot shaft and a 121/4.16 kv transformer station.

Manitouwadge was the jumping-off point for a 50-mile Hydro line east to Hornepayne, previously supplied with diesel-electric power by the railroad. The unco-operative terrain made it necessary to build the line almost entirely by helicopter.

The planned community of Manitouwadge is a terminus of Ontario's first industrial road—a private road opened to the public in return for partial subsidy. The road closed the gap between the two major highways, covering some 55 miles from the southern limit of secondary Highway 625 at Caramat to the northern limit of 614 at Manitouwadge.

Closing this gap last year reduced the distance between Manitouwadge



and-bear hunters. In Marathon, a Port Arthur lumber company has recently opened a yard and sale centre; 15 miles to the west, the old POW camp at Neys Beach has been transformed into a provincial park.

Gaps are being, or have, within the past several months, been closed between Foleyet and Chapleau; Chapleau and Wawa; Ignace and Savant Lake; Goldpines and Uchi Lake.

In Fort William, a \$400,000 Bell Telephone toll centre is under construction. East of Fort Frances, the \$6 million Rainy Lake Causeway is open to traffic. Last fall, the \$20 million Sault Ste. Marie International Bridge was officially opened.

Significantly, the West System (Northwest Region) of Ontario Hydro has not only shown consistent increases in average monthly consumption per householder (588 kilowatt-hours in 1959; 625 in 1962), but with equal regularity has surpassed

and Geraldton from 275 miles to 107 miles, since it is no longer necessary to go via Nipigon.

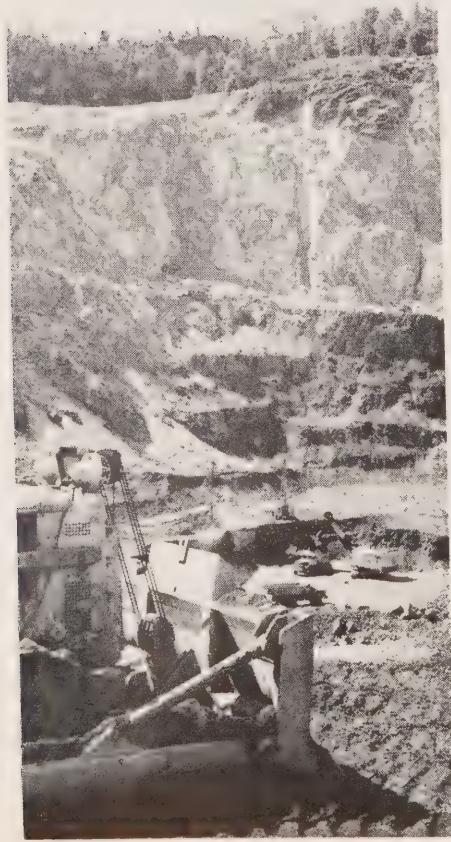
The road was built by the Marathon Corporation for the development of its forest product supply. Marathon is also a company town, but the new accessibility and the reliable supply of power is changing that.

Already Manitouwadge has an electrically-heated motel which opened this summer and is attracting moose-

the average of all systems (456 kwh in 1959; 486 in 1962).

From Sault Ste. Marie to Marathon to Nipigon to Port Arthur, Atikokan and Fort Frances; to Dryden to Kenora and the iron mines at Red Lake and Madsen, the story is one of endless beauty, ideal vacations and constant growth. And each main line, whether rail, power or road, sprouts its extra probing, benevolent fingers.

They call it the northern arc of the Golden Circle; the Trans-Canada route; the Lake Superior route. It would be well-named as an asphalt Northwest Passage of—and to—progress.



Iron is the object of these impressive open-pit operations near Atikokan. Gold and copper are other minerals of the Northwest.



At Terrace Bay, Lake Superior, 'jack-ladder' conveys logs from their watery highway to hungry maw of a bleached sulphate mill.



Lazy cruises on Lake-of-the-Woods are popular with visitors. Kenora is jumping off-spot for fabulous hunting and fishing.

# A HUNDRED ACRES OF YESTERDAY

If Recolet missionary Father Louis Hennepin, thought to be the first white man to set eyes on Niagara Falls, was to return today he would never recognize his surroundings.

With the great power developments of the last half century, the carefully manicured lawns, flower beds and parks stretching the river's length, and a hundred other man-made innovations, any resemblance between the Niagara of 1678 and the present would be difficult to find. Even the Falls have receded hundreds of feet since the awe-stricken missionary was inspired to remark in his diary about the "vast and prodigious cadence of water which falls down after a surprising and astonishing manner, in so much that the Universe does not afford its parallel."

But an oasis remains which hasn't changed much since the red man had the region to himself. Next time you are in the area and would like to see nature as it used to be, drive downstream from the Falls and explore the Niagara Glen. It is overlooked by the Niagara Glen Restaurant on Niagara River boulevard.

Here, you can get to know the great gorge where it widens out on the Canadian side to form a glen—bounded on three sides by the fast-moving river and on the fourth by rugged cliffs. It involves a good walk and a spot of climbing, but the effort will be rewarding.

Delightfully sheltered paths skirt the cliffs and overlook the river as they wind through miniature tunnels and beside strange rock formations which give evidence of an era far back in geographical time when the river flowed high above its present level.

Renowned for the vigor and variety of its flora, which is encouraged by ideal growing conditions, the glen is a showcase of native Canadian trees. Flowers grow in profusion, and they can be found in its depths from the common trillium and hepatica to the wild orchid.

And the feathered inhabitants of the glen are enough to delight the bird watcher's heart. Flashes of bright color denote the passage of cardinals,

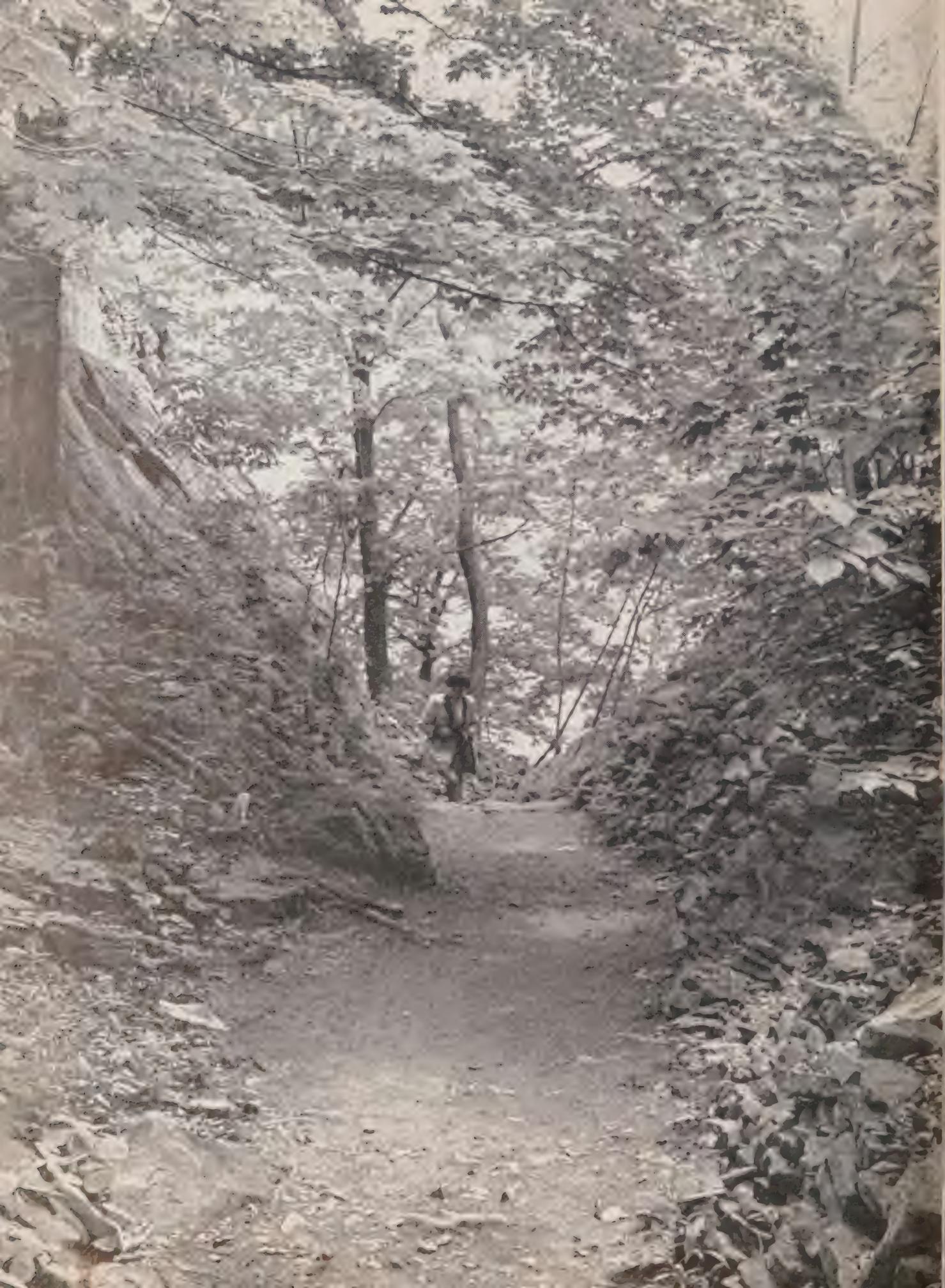
*A walk through the Niagara Glen is the equivalent of a short course in nature study as these photos suggest. Lady at right is intrigued by its feathered inhabitants, while the lads in bottom photo match wits with a chipmunk safe in his den. Wildflowers like the dames rocket, below, grow in profusion.*



*Unchanged over the centuries,*

*the Niagara Glen provides visitors with a*

*glimpse of things as they used to be.*





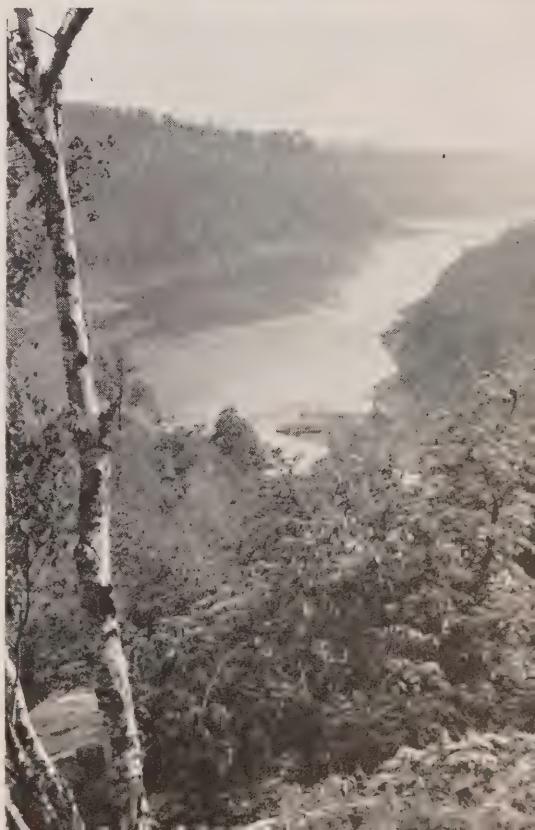
ickers, indigo buntings, blue jays and other species which have long since forsaken the built-up areas of our cities and towns. Squirrels and chipmunks chide the visitor from tree and crevice while the river slips by with a muted roar in the background. Civilization is hundreds of years away. Like so many good things at Niagara, the glen's preservation in a state of nature must be accredited to the foresight of the Niagara Parks Commission. Established in 1885 to add the area of its sideshow appearance, the commission purchased 55 acres of the glen in 1894 and over the years it has acquired all 103 acres. Under its jurisdiction, development in the glen has been restricted to

paths and stairways on the theory that at least one refuge should remain whose confines can be explored only on foot.

Located about one mile below the Sir Adam Beck-Niagara power plants, the glen is reached by means of a park at its upper level where tables and fireplaces are provided. Here, a signboard with a map indicates the several miles of pathways through the glen itself.

Anglers will find the best fishing spots marked, and there are rustic shelters as protection against sudden rain storms, but otherwise visitors are very much on their own in a world far removed from the mainstream of tourists. ■

*civilization has failed to penetrate Niagara Glen, where things are much as they were when the red man had the area to himself.*



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# YEAR OF THE BIG BREAK-THROUGH

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*All-electric communities hold the key to the medium-price, high-volume housing market.*

For the past five years, the electric heating industry in Ontario has been actively preparing the ground for a bumper crop of all-electric homes.

To ensure long range success, electric heating was introduced in Ontario in a carefully researched program with continuing emphasis on complete customer satisfaction.

First, industry standards for equipment and installations were established by the Electric Heating Association of Ontario, shortly after its formation in 1959 by electrical contractors, manufacturers, distributors, and electrical utilities. These standards were then strongly promoted through the "Triple Seal of Quality" program.

Local E.H.A. authorized representatives have now been appointed to be locally responsible for Triple Seal inspection of insulation. This will provide increased control at the local level and gradually relieve Hydro's electrical inspectors of this function.

Some 800 qualified electric heating contractors have completed a special training course provided by Ontario Hydro in co-operation with local utilities and the E.H.A. Sales staffs

in Hydro's regional and area offices, and in some municipal utility offices, are now qualified to provide future contractor training.

Energy rates have been successively reduced as the result of favorable experience with electric heating, and of a load and market analysis. A province-wide advertising and promotion program has been launched to increase public awareness of electric heating. Meetings have been held by Ontario Hydro representatives with various allied organizations, such as Canadian Standards Association, and National Warm Air Heating Association. And on February 1, 1963, E.H.A. announced a two-year guarantee of annual operating costs for owners of new electrically heated homes.

The seeds have been sown, the ground is ready, and all signs point to 1963 as the year of the big breakthrough for electric heating.

Progress to the end of 1962, of course, has been remarkable in itself. Some 2,000 electrically heated homes were completed last year, bringing the provincial total to 4,000 by year's end.

The target to be reached by the

end of 1965, however, is a total of 16,000 electrically heated homes and all-electric subdivisions are going to play a leading role in reaching it.

As Gordon McHenry, manager of Hydro's Residential Sales Department, explains it:

"At the end of 1962, most of the new electrically heated homes were custom-built. In fact, electric heating is now being installed in a large percentage of custom-built homes in the province.

"But most of the homes in Ontario are built on a speculative basis in subdivisions. We must therefore step up our activities in the area of high-volume home-building in the medium-price range."

Progress to date during 1963 has been extremely encouraging. Two major all-electric subdivisions have been officially opened, construction has started on a third, and others are being considered. In the first four months of 1963, a total of 649 electrically heated homes were completed.

"Interest in electric heating by both builders and the public has increased enormously over the past five years," R. B. Jackson, of Hydro

IDEAS TO HELP YOU LIVE BETTER...Electrically



Hundreds were on hand, top photo, as huge new all-electric subdivision under construction near Ottawa was officially opened. Photo, above left, shows John Torrance, chief engineer, and Albert Armstrong, distribution engineer, Etobicoke Hydro, checking progress of underground primary at Albion Grove Village all-electric subdivision. Asbestos-cement ducts are covered with concrete blanket. Photo, right, shows vault being lowered. Arterial distribution system at Albion Grove, with lines radiating to pad-mounted rear lot transformers, features individual underground secondary services from transformer to customer.



Gold Medallion homes at Woodroffe-on-the-Green, top photo, range in price from about \$15,700 to \$22,500. Baseboard electric heating unit is visible in photo, left, of home interior. Built-in range, dishwasher and underground services are other attractive features of this subdivision near Ottawa.



Family, right, admires luminous ceiling panel producing shadow-free light over kitchen area in Albion Grove Village home.

Line-up, below, suggests interest aroused by electrical heating and other electrical features of Albion Grove subdivision. Homes carry Electric Heating Association operating cost guarantee.



## UNDERGROUND AT WOODROFFE

Residential Sales Department, says. Builders now recognize the unique sales advantage of merchandizing all-electric homes on a subdivision basis.

"And the key to the successful promotion of all-electric subdivisions is the Medallion theme of all-electric living. As more all-electric subdivisions are opened, the public will be given more opportunities to see the many advantages of electrically heated homes for themselves."

Proof of the public's interest in the Medallion all-electric home was the overwhelming turnout of thousands to see Albion Grove Village, in Etobicoke Township, after the official opening in early 1963. A survey conducted at the site indicated that the continuing large attendance is directly attributable to the interest in electrical heating and the all-electric features of the homes.

Albion Grove Village, which will eventually contain 188 Medallion homes, is being developed by Jobert Construction Company. The electric heating systems in these homes, which are selling in the \$15,900 to \$18,900 range, are being installed to E.H.A. Triple Seal of Quality standards, and will therefore qualify for the E.H.A. two-year guarantees of annual operating costs.

Underground distribution of electrical and telephone services is an added feature of Albion Grove Village—Etobicoke Hydro and the Bell Telephone Company have buried their distribution lines in a common trench along rear lot-lines. The concentration of all-electric homes, resulting in an excellent load for Etobicoke Hydro, makes underground distribution economically feasible for the subdivision.

In May, the first phase of what will be the largest Gold Medallion all-electric community in Ontario was officially opened just outside Ottawa. Site of the first 250 homes being built by Trendsetter Developers Limited is called Woodroffe-

on-the-Green, and it is the first major all-electric home development in Eastern Ontario. Electrical service is provided directly by Ontario Hydro.

Trendsetter Developments is planning to build a total of 1,800 Gold Medallion homes during the next seven years at the rate of approximately 250 a year. All will bear the Gold Medallion symbol of electrical excellence, qualify for the E.H.A. guarantee of annual operating costs for electric heating, and range in price from approximately \$15,700 to \$22,500.

In addition to Gold Medallion features, owners of Woodroffe-on-the-Green homes will also enjoy:

- a built-in electric range
- a built-in automatic dishwasher
- underground electrical, telephone and television services.

From the utility's point of view, Medallion all-electric subdivisions are an excellent means of building load. For one thing, they ensure high annual consumption of electric energy. The average annual consumption of electric energy in an Ontario home is 5,648 kilowatt-hours. By contrast, in Albion Grove Village, homeowners will use some 21,000 to 23,000 kilowatt-hours a year for electric heating alone. A Medallion all-electric home may consume more than six times the kilowatt-hours used in an average home, and about 12 times the kilowatt-hours used in a home in an all-gas subdivision.

Utilities are also assured that the high annual consumption of an all-electric home will continue for many years to come. All-electric living, particularly in an all-electric community, will eliminate the use of other types of energy in the home.

As W. Ross Strike, Chairman of Ontario Hydro, has said, a Medallion home is the key to increased electric energy consumption. "And I can assure you, if the portents mean anything, that this is going to be the year of the big break-through." ■

THE 1,800-home all-electric community to be built near Ottawa, including the first phase known as Woodroffe-on-the-Green, will be free of overhead distribution lines for electrical and telephone services.

A loop-feed underground distribution system will supply the entire community. Pad-mounted transformers, located on rear lot lines, have incoming and outgoing switches and a standard transformer fused cutout. The primary voltage is 8,320/4,800 volts.

This underground system also features individual secondary services from the transformer to the customer at 120/240 volts.

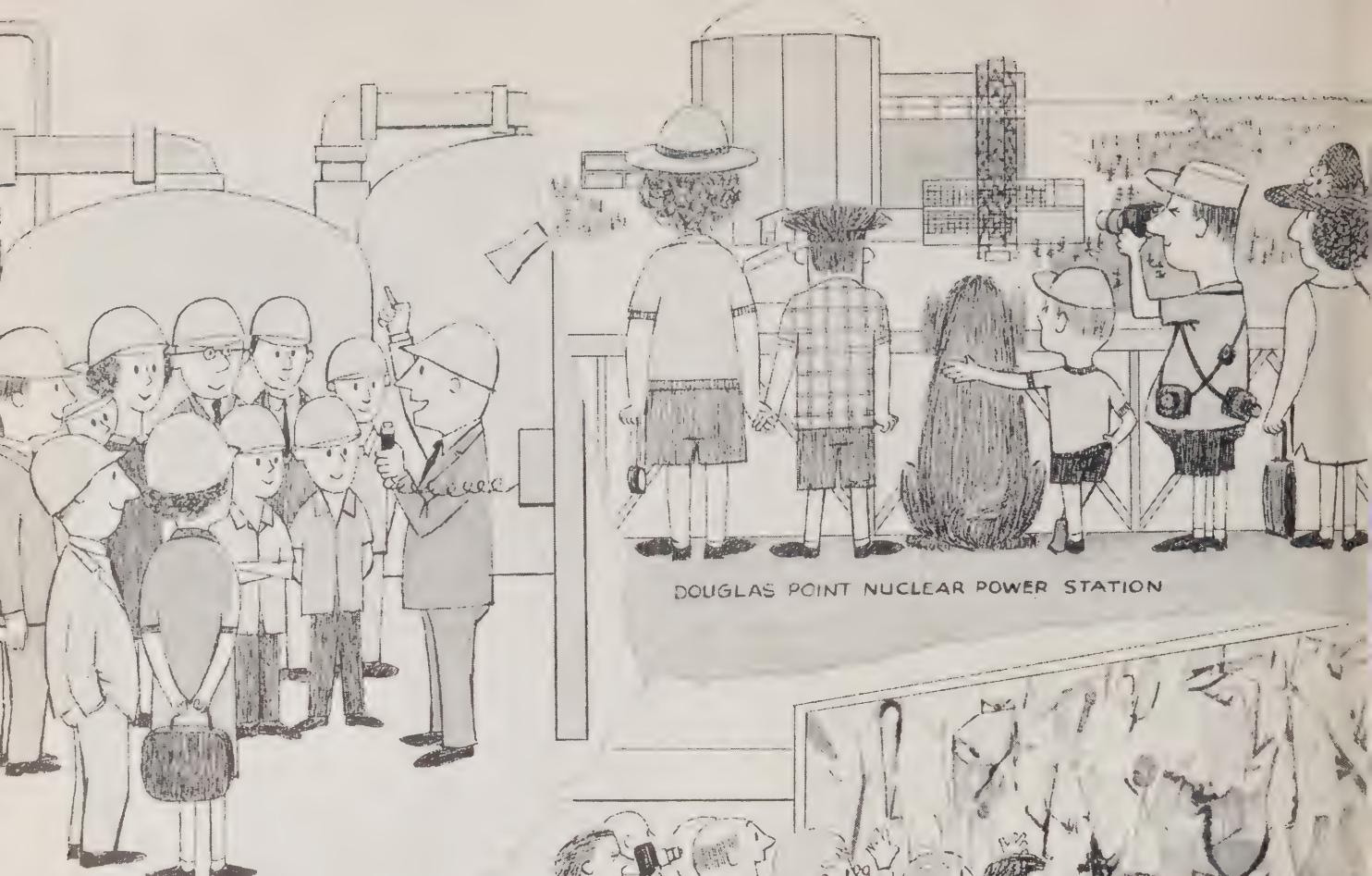
Lorne Peddie, distribution engineer in Ontario Hydro's Eastern Region, who designed the system serving Woodroffe-on-the-Green, says that the advantages of loop-feed distribution and individual services are: security of service; economy; and improved appearance with no pedestals above ground.

The loop-feed of the primary line means that all transformers can be supplied from either end and a break in the primary line would only involve a short interruption to a few customers while switching is done and the faulted section isolated.

With individual services, a break in any secondary conductor would only interrupt service to one customer. If this should happen, service could be restored fairly quickly on a temporary basis by using a "dummy" service provided at each transformer location.

Mr. Peddie believes it is also more economical to use individual services than to use the very large secondary bus conductors and pedestals that would be necessary to supply these electrically-heated Gold Medallion homes.

Load in the 1,800-home community will eventually require construction of a distribution station with a capacity of 20,000 kva. ■



DOUGLAS POINT NUCLEAR POWER STATION

INSIDE LAKEVIEW G.S.



MURAL AT R. H. SAUNDERS  
ST. LAWRENCE G.S.



DES JOACHIMS G.S.

# HYDRO PLAYS HOST

*Thousands of  
summer travellers are  
including side trips to  
Hydro developments on  
their vacation itineraries*

WHILE Ontario Hydro power developments will never compete with the leaning tower of Pisa or Egypt's inscrutable sphinx as international tourist attractions, they do excite a great deal of public interest, and the Commission makes every effort to accommodate visitors with a yen to know more about its operations.

Well trained guides, smart uniforms, convenient viewing areas and an interesting program with attention to detail all contribute to the success of Hydro tours which are an important facet of the Commission's program to keep the public informed of its key role in the daily life of the province.

And public imagination, captured during the drama and excitement attending construction of its great hydro-electric developments, has been fostered and maintained long after the engineers and machinery have turned to other endeavours. At the Robert H. Saunders - St. Lawrence Generating Station, for example, pretty, uniformed girls conducted over 3,000 tours last year for close to 120,000 visitors.

The tours, which include a film showing of the construction phase of the project, draw visitors from every province and state of Canada and the United States as well as many other countries. The combined seaway and power project is recognized as one of the world's great engineering feats.

Other great hydro-electric developments where guided tours are conducted include the Sir Adam Beck-Niagara Generating Station and the Des Joachims project on the Ottawa River north of Pembroke.

And judging by the number taking advantage of visitor facilities at Douglas Point Nuclear-Electric Sta-

tion, now well advanced in construction on the shores of Lake Huron between Kincardine and Port Elgin, the space-age method of power production holds an equal fascination. Visitors can also view a nuclear-electric station which is in actual operation, near Des Joachims, where information services have been established at NPD, Canada's first power development to utilize atomic reaction.

Rounding out the life-size Hydro showcase depicting the principal method of power production in Ontario is the giant Lakeview thermal-electric station on the Western outskirts of Toronto. Here, the intricacies of a modern coal-fired plant may be viewed by means of specially arranged tours.

Strategically located throughout the province, these developments provide an interesting and informative side-trip for vacationing visitors and local residents.

At the St. Lawrence, the hour-long tour fits in admirably with a visit to the nearby Upper Canada Village, where one can set back the clock a hundred years and experience a way of life practised by the pioneers. Other attractions are the excellent system of river-side parks stretching from Kingston almost to the Ontario-Quebec border, and the capital city, Ottawa, only 80 miles away on first class highways. Boat tours on Lake St. Lawrence, formed by the head-pond flooding of the power projects, are also available.

At Niagara, in addition to the one-hour guided tours of the power plant, the many major attractions include the world renowned Falls, the Niagara Parks System, one of the finest in the world, Brock's monument and many other reminders of the district's eventful history.

For the visitor to Douglas Point, the Blue Water Highway and the broad sand beaches of Lake Huron are an open invitation to fun in the sun. Popular tourist resorts abound in the area.

Fishermen and nature-lovers among those visiting NPD and Des Joachims will find much to their liking in Algonquin Park and the unspoiled beauty of the Ottawa Valley. And Canada's big nuclear research centre is at Chalk River.

Attention to detail accounts, in part, for Hydro's reputation as a host. Typical is the sound system at the Lakeview thermal-electric station.

Here, guides no longer need voices like sergeant-majors on parade to make themselves heard above the roar of the plant. They just press a button at seven strategic locations throughout the station and tape-recorded descriptions of the complex plant operations are broadcast to the visitors.

Although the recorded talks introduce the element of automation, the personal touch remains. A guide can interrupt at any point to elaborate or answer questions by pressing a button and speaking through the sound system speaker. The recording resumes when he has finished.

While the tours are primarily set up to improve public knowledge of Hydro operations, they are being used more and more by school children as a supplement to their academic work. Next fall, for example, Lakeview will be opened to secondary school science students for this purpose.

In addition to the general public, distinguished guests of Canada, including many of our own Royal family, heads of state, diplomats, engineering groups, newsmen and service clubs, have found Hydro plants well worth a visit.

Such personages as Edward, Duke of Windsor; the Duchess of Kent, Princess Margaret, King Norodom Sihanouk of Cambodia, Crown Prince Akihito of Japan and Prince Albert of Belgium have been among the royal visitors to Niagara. Queen Elizabeth herself officiated at ceremonies in connection with the St. Lawrence Power Project.

Special tours are arranged on request and often cover a more extensive itinerary than the regular tours, with emphasis on those aspects of the projects most interesting to a particular group. Engineers, for example, would be given technical information and background in greater detail.

Including casual visitors to Hydro's unique floral clock at Niagara, an estimated 700,000 visitors viewed Hydro installations last year. Well over a third of these availed themselves of the guided tours. ■

*The man with  
his finger on the  
market's pulse  
should benefit from  
Hydro's sales management  
development program*



*Keynote addresses by speakers such as J. H. McQuaig, above, president of McQuaig Institute of Executive Training, followed by case studies in small groups, below, set pattern for three-day sales management conferences.*

# SCHOOL'S IN for utility sales managers

Clinical examination of the electrical utility sales manager's job—that's the objective of two recent sales management conferences held in Toronto by Hydro's Training Services Department as part of a continuing program to develop and marshal a highly effective marketing organization.

The conferences, one in May and one in June, were held at the Guild Inn in Scarborough, and some 50 municipal utility and Ontario Hydro administrative sales personnel attended in each case.

A. V. Crate, former manager of Ontario Hydro's Advertising and Marketing Services, perhaps best summed up the purpose of the conference when he told candidates at the conclusion of sessions:

"... This conference is but part of a continuing program of development to assist you to maintain the high level of performance and efficiency in our marketing program which you obviously wish to maintain.

"Training will continue to take into account the needs and desires of the municipal utilities as well as Ontario Hydro, and we will continue to depend upon you for your advice and opinions as to the type and depth of information which you would like to have to assist you in your responsibilities."

Such conferences, which will be a continuing activity, are only one phase of a Sales Supervisory Staff Development Program which is also to include: a consultation service so that the resources of Training Ser-

vices staff can be made available on request; the addition of new material to the Sales and Customer Relations Guide, and the circulation of a comprehensive list of marketing and sales management courses.

Articles on appropriate subjects will be published in Sales Management Bulletins, which will also feature an "idea mint" for exchanging information on novel sales tactics and new markets.

At each conference the case-study discussion method was used in conjunction with keynote speeches by specialists in business, industry, and consulting organizations.

"While people often think of us as a monopoly, a non-competitive business," D. J. Gordon, executive director—marketing, told delegates, "actually we are in the customer satisfying business, and you know that we have to adapt to customer needs and demands or we won't survive.

"You are the men with the finger on the pulse of the market," he said, "You have the principal responsibility for implementing the marketing plan."

Major points made by other speakers:

**E. B. Chown, Woods, Gordon & Co.:** Marketing objectives must be attainable, must receive the fullest support and co-operation of all parts of the organization, must provide a worthwhile return. The hardest selling you may do is selling your own bosses. Companies with poor sales records inevitably employ poor planning. The individual sales manager must

interpret the marketing plan and objectives established by the Company. **F. P. Kirby, Foster Advertising Ltd.:** Without method and supervision even the most sincere sales effort can end in mis-directed energy and varying degrees of confusion.

**Jack H. McQuaig, McQuaig Institute of Executive Training:** Thorough job analysis and carefully prepared job descriptions are an essential preliminary to recruiting and selecting salesmen. In recruitment and selection we must look for attitudes, motivation, stability, maturity, and aptitudes. We must hire leadership, intelligence and stamina.

**W. C. Ritzel, Carling Brewery Co.:** First we must know the responsibilities of a salesman's job, the several duties involved, and the knowledge required. In performance evaluation we must measure the attainment of objectives, knowledge, work habits, attitudes, and personal behavior.

**W. T. Nichols, Bell Telephone Co. of Canada:** In the proper motivation of sales staff the manager must determine the degrees of emphasis which are required to make a salesman truly effective. He must also make certain that his employees clearly know their responsibilities and where they are expected to place major emphasis. The manager must evaluate his own weak and strong points as well as those of his sales staff. An analysis in efficiency requires the consideration of whether the unwillingness to do results from a lack of knowing how to do it. The most expensive salesmen on your payroll are those inadequately trained. ■

# New Eby Rush station honors Waterloo Utility veteran

Veteran Waterloo P.U.C. employee Eby Rush, right photo, unveils plaque at \$300,000 transformer station named in his honor. Ontario Hydro Chairman W. Ross Strike shares his pleasure. In lower photo, platform guests are introduced by Waterloo P.U.C. Chairman Howard Scheifele.



With 53 of his 73 years spent in serving Waterloo P.U.C., Eby Rush is almost unique among municipal utility employees. The electrical pioneer's life story reads like a historical encyclopaedia of the commission which he joined in 1910 when it was still known as the Waterloo Water and Light Commission.

One of his first jobs was as a line-man while helping to install much of the town's original electric system. Retired since 1955, he is still a technical consultant to the commission.

Because of this life-long contribu-

tion to the area's power development, Waterloo P.U.C. last month paid singular honor to the veteran utility man. Civic leaders and utility representatives were among more than 100 who looked on as the \$300,000 Eby Rush transformer station was officially inaugurated. Several speakers offered tribute to Mr. Rush.

Introduced by Howard Scheifele, Chairman of Waterloo P.U.C., W. Ross Strike, Chairman of Ontario Hydro, said that old-timer Eby Rush's contribution had been made in an area which was pioneer country in the development of the province's power resources.

In common with Mayors J. S. Bauer of Waterloo and K. Hymmen

of Kitchener, Mr. Strike also cited a an outstanding example of co-operation between the cities of Kitchener and Waterloo, the agreement where by, pending construction of the new Eby Rush station, Waterloo had used the step-down transformer facilities of Kitchener. The new 115-13.8 k.v. transformer station will provide supply of power at sub-transmission voltage at a point close to Waterloo P.U.C.'s load centre.

Among other platform guests were D. P. Cliff, Ontario Hydro Commissioner; John McMechan, vice president of the Ontario Municipal Electric Association; and John Torrance, president of the Association of Municipal Electrical Utilities.

With a world-wide reputation in the field of utility administration and technical management to uphold, the Association of Municipal Electrical Utilities met recently in Windsor to consider subjects ranging from portable pensions to underground distribution and public relations.

More than 330 delegates representing over a hundred municipalities across the province rolled up their sleeves in the tropical weather attending this year's two-day summer conference designed for management. They dealt with more than a dozen vital subjects in concurrent sessions.

In keeping with its usual practice, the association called on specialists among the manufacturers and outside utilities to supplement papers and discussions by experts within its own ranks and those of Ontario Hydro. To promote the highest possible level of participation among delegates, informal panel discussions were a feature of the conference. Among the subjects examined in this manner were downtown conversion from overhead to underground, public relations, street lighting, retail rates and work planning.

New legislation in the pension field at the provincial and federal levels and its implications with regard to existing plans was behind a discussion in this field led by R. S. Reynolds, Chatham, and Miss Mary West of Ontario Hydro's Law Division. Miss West received special recognition as the first lady to address an A.M.E.U. management conference.

Among the features of a well-planned ladies program was a visit to an industrial plant at Walkerville, luncheon at a local country club, and a shopping tour of a leading Detroit department store.

Speaking at the annual dinner meeting of the Electric Utilities Safety Association, which brought the conference to an end, retiring President B. M. Graham, North Bay, deplored the safety record for 1962, when there were 162 lost time accidents as compared with 128 the previous year. On the credit side, he noted that many were of a less serious nature.

A decision to establish E.U.S.A. as a corporate body and to amend its constitution to permit the nomination of

The Association of Municipal Electrical Utilities of Ontario assembled in Windsor for its annual

# CONFERENCE FOR MANAGEMENT



*To spark maximum participation, panels were a conference feature. This group led discussion on retail rates. Left to right are: E. G. Bainbridge, Ontario Hydro; J. A. Williamson, Niagara Falls; A. Ford, Hamilton, panel chairman; Harry Hyde, Toronto, and J. B. MacDonald, Ontario Hydro.*



Mainstreet conversion to underground was this panel's topic. From left are: D. H. Moodie, Kingston; W. Chisholm, Ottawa; W. S. Mullin, Windsor, chairman; A. Dobronyi, London; Frank Jannaway, St. Catharines; R. M. Senyshen, Kitchener.



While their husbands were tackling knotty management problems, wives were free to enjoy the many attractions of Windsor area. Bus-load here is on way to Walkerville where interesting industrial development was inspected.

officers from the floor were other developments announced at the meeting. A. W. H. Taber, Fort William, was named president for the new term, while C. I. Bacon, Cornwall, becomes vice-president. ■

#### BULK METERING OF APARTMENT BUILDINGS

After a thorough study aimed at determining the best method of metering a concentration of residential services, the Problems Committee, District 4 A.M.E.U., has come out with a strong recommendation in favor of mandatory "bulk" or central metering of electric supply to apartment buildings.

Reporting on behalf of the Committee at the Summer Conference in Windsor, R. W. Brown, Etobicoke Hydro, posed the question "Why continue to follow the procedure in effect for individual residences on streets—for residences concentrated in an apartment building—when a reduction of effort, and hence cost, could be effected by arranging for the owner to take the supply of service "in bulk"?

To compare metering costs and revenue received for various sizes of apartment buildings, he quoted three examples—all served by the same utility under its present rate structure. In all three cases a substantial saving to the utility was observed when bulk or totalized metering was employed. He noted that commercial rates produced more revenue from the 29-suite building, while domestic rates were more

remunerative in the 52- and 149-suite buildings used as examples.

The figures took into consideration cost of the meter, setting up the account, meter reading, billing, collection and tenant transfers.

Acknowledging that there might be reluctance on the part of some apartment owners to take a bulk supply of electrical energy and to recover the cost in rent, Mr. Brown suggested that this was only "a reluctance to change an old habit. It is, therefore, the responsibility of the utility manager," he said, "once he has convinced himself of the efficiency of bulk metering, to work toward that end and apprise his commission or council of the benefits to be realized by the institution of a change in present apartment metering policy."

He suggested, further, that if economies were to be realized by a change in methods, the earlier these changes were effected, the greater would be the savings in the cost of supply.

Based on the results and findings of its investigations, the committee recommended that the executive of the Central Region A.M.E.U. request the parent body to take immediate action "toward implementing a policy amongst all Ontario utilities for mandatory 'Bulk Metering' of the supply of power and energy to apartment buildings." ■

#### THE DAWSON FESTIVAL

Any suggestion that it takes a brass band and a line of chorus girls to hold the attention of some convention-goers

was disclaimed for all time by John Dawson, manager of Dunnville Public Utilities Commission, at this year's Summer Conference of the A.M.E.U.

Everybody jumped when one delegate dropped his handkerchief during Mr. Dawson's one-man skit on the big stage of Windsor's Cleary auditorium from where he punched home the perplexing problems confronting the small-town utility. "A small town and a large town have only people in common," Mr. Dawson commenced, "and I am going to show you how their problems differ."

Interrupted from time to time by a lady whose cat became involved with a Hydro pole, and a housewife with laundry schedule dislocated by a power outage, Mr. Dawson went on to suggest that the A.M.E.U. should gear more of its thinking to problems pertinent to smaller utilities. If the line between big and small was drawn at 15 employees, he pointed out, the small utilities would outnumber the large by four to one in Ontario. He said his utility's total load was about one third that of Eaton's College Street store in Toronto and that the town's population was less than the number of employees on the staff of the store.

After detailing specific areas in which the O.M.E.A., the A.M.E.U. and Ontario Hydro could assist the small utility, he proceeded to outline what the smaller utility could do for itself. Using Dunnville as an example, he succeeded in portraying a live-wire, highly personalized organization which, by ingenuity and hard work, had overcome problems



A.M.E.U. President John Torrance, Etobicoke Hydro, enjoys shirt-sleeve conference on program details with members of Windsor utility. Left to right are Glenn Fisher, Mr. Torrance, H. A. Soutar and Jack Cook.



John Dawson and Art Fort present Dawson City Festival.



Eight-man panel discussed public relations. Shown, from left, are: Harry Foy, Weston; John Gurnham, Preston; S. R. Greenwood, Weston and L. S. Treuge, Windsor.

lems in the field of heavy equipment, underground distribution, customer and public relations, metering and staff morale.

Mr. Dawson brought his highly successful performance to an end by having Hydro home economist Edithemma (Art Fort) demonstrate a brand new appliance of his own devising—a remarkable electric generator capable of producing natural gas. ■

#### PUBLIC RELATIONS FORUM

Few facets of public relations as it relates to utility operation were overlooked by the eight-man panel which examined the subject at the recent A.M.E.U. Summer Conference in Windsor. Among the directions from which it was viewed were the customer, the community, the employee and allies who might be enlisted to further a public relations program.

As panel moderator, S. R. Greenwood, Weston P.U.C., drew attention to the wide range of utility organizations represented in Ontario. Bearing in mind this divergence of views and needs, he called local autonomy the greatest strength and most dangerous weakness of the Hydro system. He said the strength lay in the possibility of developing "a full spectrum of responses to the varying needs of our people. Out of the imaginations of the men and women of all our systems, ideas, good and bad are continually flowing."

The failure of some to share in the development and application of these ideas, and to express opinion on all of

them, represented the weakness. It wasn't enough, he said, to sit back and cry "that's all right for Bowmanville, but it won't work in Weston. For your sake and for ours, get up and tell us why."

Frank Wilkinson of London P.U.C. dealt with a specific problem—the service applications and guarantee deposits required by utilities from new customers. Asserting that he knew of no other municipality in Western Ontario which did not require a signature or a deposit, he urged delegates to reconsider this 50-year-old practice in the light of changing conditions and the need for good customer relations.

"Our cities are expanding," he said, "and suburban areas are many miles from our offices, most of these new communities are populated with young married people and young families, parking is a problem, and many other good reasons make it difficult for the customer to pay a personal visit to the Hydro office to place his name on an application form."

Mr. Wilkinson presented statistics to justify his commission's decision to discontinue signatures and deposits for service.

"Let us assume we make only one trip to either disconnect or reconnect 50 per cent or 6,500 of the 13,000 consumers moving within the city (annually) at a cost of say \$3 per call, including labor, trucking and fringe benefits, the cost would approximate \$19,500. Add to this \$4,000 for administering a guarantee deposit file and the yearly cost totals \$23,500. Our bad

debts (domestic) last year were less than \$2,000."

In conclusion, Mr. Wilkinson acknowledged that it was too early for him to say that the discontinuance of the signed contracts and deposits was the only solution to a problem of such long standing. "However," he said, "I can assure you it has enhanced our customer relations program a great deal during the past eighteen months."

Defining an ally as a friend who is prepared to render assistance when required, T. J. Curtis, New Toronto, named the Electric Service League as having great potential for utility assistance in the public relations field. "In my opinion," he said, "this organization is one of the most vital in the electrical industry, yet one of the least understood."

Explaining the League's function, and the recent formation of chapters throughout the province, he emphasized that they were specifically intended to work in conjunction and harmony with the staff of the local Hydro utility. "They are not out in the field to run a little war of their own," Mr. Curtis said, "but to dovetail their efforts with yours. All you have to do is let them in and plan your program together."

The Electrical Bureau of Canada and the Electrical Contractors' Association were other allies which he said were prepared to co-operate in presenting the unified front essential to good public relations.

"I suggest to you that, until the relations within the electrical industry itself

# ACCOUNTING AND OFFICE ADMINISTRATION GROUP MEETS

The quaint summer community of Chaffey's Locks on Lake Opinicon provided a picturesque setting for the 12th annual conference sponsored by the A.M.E.U. Eastern Ontario Division Accounting and Office Administration Section.

Some 90 delegates, representing electrical utilities between Oshawa and Ottawa, attended the two-day meeting in the heart of the Rideau Lakes area.

Presiding over the sessions was Conference Chairman William Hales, Belleville. Among the featured speakers were Kenneth Smith, Ontario Hydro analyst; G. R. Davis, Kingston, representing the Municipal Hydro-Electric Pension and Insurance Committee, and John Borrowdale, Oshawa, who discussed office staff training.

Dr. D. K. Grant, director of Medical Services for Ontario Hydro, acquainted

a luncheon gathering with some of the effects of nuclear radiation. He said that "ignorance and fear" still existed on the subject, "often promoted by ill-founded and sensational publicity."

J. A. Brodie, Ontario Hydro, presented two films highlighting the importance of communications and also human attitudes in modern business operations.

Elcombe C. St. Dennis, Brockville, was elected chairman of the 1964 conference, while Thomas Tindal, Gananoque, was named program chairman with Roy Longbottom, Ottawa, as secretary-treasurer. Elected directors were A. W. Moore, Oshawa, and Roy Wright, Ottawa. ■

## WHY DO IT AT ALL?

"Of all the damnable waste of human life, clerking is the worst; 50 thousand entries a year that poor wretch makes, and not 10 of the 50 are referred to again."

Although machines have taken away much of the drudgery George Bernard Shaw had in mind, there is still a long way to go in the opinion of Roy Longbottom, Ottawa, who quoted the Irish playwright in his talk on "Work Simplification" at this year's Eastern Ontario A.M.E.U. Accounting and Office Administration Conference.

In achieving simplification, Hydro administrative personnel must find the answers to such questions as: how much copying is there in my office? How much movement of documents takes place? What is the volume of work—



Elected chairman of arrangements committee for 1964 A.M.E.U. Eastern Ontario Accounting and Office Administration Conference, Elcombe St. Dennis, Brockville, centre, chats with fellow delegates, K. McCraig, Kingston, left, and Tom Tindal, Gananoque.

are put on a firm foundation, with complete understanding between its various branches, it is useless to think we can greatly improve our own image before the consuming public."

After outlining specific techniques in which staff should be trained in order to up-grade the utility image, Leslie Treuge, Windsor, stressed that a forward looking policy, geared to giving the customer the best long range value for his Hydro dollar, could not fail if

the staff understood the problem and felt it had a share in the formulation of policy.

On a different tack, and after acknowledging that accepted public relations techniques were valuable, John Gurnham, Preston, deplored what he believed was a declining "esprit-de-corps."

"No matter how complete your program of putting your collective best foot forward may be, without this basic attitude of working **with** instead of **for**

how long does it take to fill in a form? How much peak period work is there—how can the load be spread? Why do we do it that way? Do we need to do it at all?

Dealing with the subject of letter-writing, the speaker suggested that many people "are guilty of sending unnecessary letters and of saying unnecessary things in letters." In this connection he quoted National Office Management Association Survey figure published in the January, 1963 issue of Ontario Hydro News, which estimated that the average business letter cost \$1.83. Another survey showed that follow-up letters (which clarified points that should have been made clear in earlier letters) comprised 17 per cent of a business firm's mail.

Turning to the question of filing, Mr. Longbottom suggested that utilities establish a retention schedule based on the following guide prepared by a A.M.E.U. sub-committee in 1959:

- (a) Meter readers' sheets—4 years plus the current year.
- (b) Cash stubs—1 year plus the current year.
- (c) Correspondence—5 years.
- (d) Contracts—1 year after the final bill is paid.

The speaker also dealt with control and statistics, suggesting the utilities could save valuable time by eliminating unnecessary ledger balancing and checking on the value of statistics by maintaining a record of what action resulted from their use.

a utility, a good deal of this regimented program of service will be wasted."

Among the steps he recommended to boost morale were promotion of staff social activities, generous praise for job well done, and an effective communications system to keep employees informed of utility policies.

"If we can regain and build that esprit-de-corps" he concluded, "then the biggest part of our public relations job is done."



# along hydro lines

## District No. 5 - O.M.E.A. Meets

Municipal utility representatives from the Niagara peninsula and areas west of Hamilton converged on Brantford to discuss problems and exchange ideas at the recent Summer Meeting of District 5, Ontario Municipal Electric Association.

The agenda comprised such varied items as an open forum discussion, a resolution on appeals from apportionment of costs to municipal utilities, a talk on current trends in electric heat and a discussion of the "Cost of Power Statement". District President Norman Craig, Burlington, was in the chair.

A highlight of the meeting, held at the Brantford German - Canadian Club, was a talk by Ontario Hydro's Municipal Service Engineer, Grant Bainbridge, on "Annual Adjustment in the Cost of Power" —commonly called the "13th Power Bill". The speaker dealt individually with the items making up the difference between the actual cost of power and the power accounts rendered in the Cost Adjustment Summary for the 12 months period ending December, 1962.

In reference to studies presently being conducted, both at the request of the O.M.E.A. Power Costing Committee and at the initiative of Ontario Hydro, to examine the entire cost allocation process, Mr. Bainbridge detailed these steps contemplated by the Commission: (a) critical examination of all present costing practices; (b) determination of the nature of all the problems brought to the Commission's attention by O.M.E.A. and other interested parties; (c) con-



Enjoying a chat after the meeting, these delegates are, left to right: G. L. Bertling, Delhi; George Butcher and W. D. Stalker, Simcoe; E. W. Phillips and John Passmore, Delhi.

sideration of all alternative solutions available; (d) consultations, internally with various divisions of Hydro and externally with the O.M.E.A. and A.M.E.U.; (e) formulating recommendations and obtaining final approvals of all interested parties.

In a lighter vein, a mock commission meeting of Niagara Falls P.U.C., with the commissioners, manager and assistant manager participating, freewheeled through a typical "business agenda" put on for the benefit of the greatly amused audience.

H. C. Palmer, in his talk on "Current Trends in Electric Heat", noted many encouraging developments he had observed in his capacity of Sales Superintendent in Ontario Hydro's Niagara Region.

Commissioner Andrew Frame of Burlington put a motion aimed at amending legislation to introduce a right of appeal against the charges and apportionments made against municipalities by Ontario Hydro. In accordance with a recommendation from the Chairman, the meeting agreed to refer the matter to the Legislative Committee of the parent body for further study.

The meeting wound up with a reception and dinner in the spirit of good fellowship which has become typical of these gatherings of municipal utility representatives.

## Known as Mr. Orillia C. Harold Hale Dies

Charles Harold Hale, editor emeritus of the Orillia Packet and Times and a founder of the town's hydro-electric system, died recently in his 89th year.

Called "Mr. Orillia" by former Premier Leslie Frost, Mr. Hale was a confidant and adviser to Mr. Frost and a close friend of former Prime Minister Arthur Meighan. He had been editor of the newspaper for half a century and associated with it for about 76 years.

Among his many contributions to the welfare of Orillia, Mr. Hale served 10 years on the town council and he was chairman of the hydro-electric board for nine of his 12 years as a member.

His wife, the former Mabel Elizabeth Maclean of Orillia, died in 1957.

## I.E.E.E. Meets at Toronto

The world's largest engineering fraternity, the I triple E or Institute of Electrical and Electronic Engineers returned to Toronto for its Summer General Meeting this year after a decade's absence.

This international institute is renowned for the excellence of its scientific papers which are used as guides and texts throughout the world. Some 2,000 delegates of its 60,000 membership presented and participated in discussions on some 250 technical papers, numerous committee meetings and tours of scientific and industrial interest.

I.E.E.E. membership includes scores of senior personnel from the province's municipal utilities and Ontario Hydro.

Chairman of the meeting committee was Ontario Hydro General Manager J. M. Hambley. Vice-



*Discussing the week-long program of the I.E.E.E. summer meeting, in which they all played a role, l. to r., are: Harry Hyde, Toronto Hydro; B. Richard Teare, a vice-president of the association; Dr. D. K. Grant and J. M. Hambley of Ontario Hydro.*

chairman was Harry Hyde, general manager and chief engineer of Toronto Hydro. Many municipal and Ontario Hydro engineers served on committees or presented technical papers.

Inspection trips to the Toronto Hydro and Ontario Hydro's Richview control centres, the Niagara and Lakeview generating stations and the W. P. Dobson Research Laboratory proved popular with delegates.

Major topics of the conference were the effects of nuclear radiation, space communications and the design and construction of EHV (extra-high-voltage) transmission facilities.

## MUNICIPAL BRIEFS

Meter technicians from across the province are expected to attend a special Metermen's Workshop being sponsored by the A.M.E.U., November 14 and 15, in Etobicoke. Chairman of the association's Metering and Service Entrance Committee, Elliott McBroom, Toronto Hydro, reports that the accent will be on shop and field practices. A highlight of the workshop, which Mr. McBroom believes will interest utility managers as well as meter personnel, is a proposed demonstration of automatic remote metering.

Air conditioning is changing the traditional pattern of London P.U.C.'s demand charts. Peak load on the utility's downtown system occurred in the summer for the first time in 1946, and the gap has been growing ever since. Summer peak now exceeds the winter peak by about 25 per cent. Air-conditioned theatres, apartment and office buildings, department stores and shopping centres account for the change.

Waterloo P.U.C. plans to consolidate its scattered operations into one modern pre-cast cement and steel building on three acres of land on Weber Street North. The building, to be electrically heated and air conditioned, would cost about \$235,000. It would be undertaken as a winter works project with construction to start in the fall.

**Citizens of Oshawa** are installing fast-recovery electric water heater units at the rate of seven per working day, and the local P.U.C. recently held ceremonies marking installation of the 5,000th rental unit. Spearheading the water heater promotion is Jack Risbrough, superintendent. His field force teams up with the office staff under John Borrowdale's supervision in their highly successful efforts. Secretary-treasurer William Gibbie attributes much of the success to the excellent co-operation received from plumbing, building and electrical contractors.

**Scarborough Council** approved a resolution which would make it mandatory for developers to provide for underground distribution in shopping and industrial centres.

**In line with** many Ontario utilities, Sault Ste. Marie P.U.C. will install an automatic water heater control system, and it has announced a plan under which customers can buy or rent water heater units from the commission.

**Milton Hydro** employees recently moved back into their own Main Street office after about two months in a temporary location while their office was being renovated. An interesting feature of the new headquarters is an envelope dispenser and depository at the front door for the convenience of customers wishing to pay their bills after hours and on week ends.

**Galt P.U.C.** has three lots for sale but there are conditions attached. They are being sold subject to the covenant that purchasers will erect electrically heated homes on them. The Commission hopes these all-electric homes, on adjoining lots, will help convince the public that average cost homes can be heated electrically as cheaply and efficiently as with conventional fuels. The homes are expected to be in the \$12,000 to \$14,000 price range.

**Jointly sponsored** by the Electrical Contractors' Association of Ontario and Ontario Hydro, a three-day sales training workshop for electrical contractors will be held, September 9-11, in Scarborough. Object of the course is to assist contractors in selecting and developing the market area they can serve best. The contractors' association also plans courses in estimating and job management. While these courses are centred in Toronto, the association is prepared to help organize others in areas where there is sufficient interest.

**When Acton Hydro** joined the recent province-wide refrigerator-freezer promotion it got results and built load, but not a sale was made through local dealers. The utility is now considering a fact-finding poll on sales distribution.

**For uniformity**, Welland Hydro is classifying distribution construction in three categories. Standard is defined as overhead construction where street lighting is carried on the line poles; improved is overhead construction carried on rear lot poles with separate light standards on the streets; underground is defined

as a system where all wires are underground and lighting is on concrete poles. Subdividers will be charged nothing extra for standard, \$100 for improved, and \$200 for underground, per lot.

In announcing a recent rate reduction, Sioux Lookout Hydro pointed out that "steadily increasing consumption by local customers was a major factor." In 10 years, average residential consumption per customer had increased from 296 kilowatt-hours to 560 kilowatt-hours.

With a new city hall in the offing, Sarnia Hydro will try to convince council that it should be heated electrically. A visit to the new electrically heated and air-conditioned Forest Hill municipal building is planned.

Personalities in the news include *Neil Britton*, who has been appointed assistant manager of the Belleville P.U.C. Formerly Consumer Service supervisor with Ontario Hydro's East Central Region, Mr. Britton is a graduate of the University of Toronto. His father is manager of Newcastle P.U.C. *Russell T. Moore*, superintendent of Brampton Hydro, has retired after nearly 34 years' service. The utility's fourth substation, built three years ago, was named in his honor. At a recent dinner and reception he was presented with an electric watch inscribed "Mr. Hydro—Brampton 1929-1963." *John Adams*, line foreman and an employee of Sudbury Hydro for the past 40 years, retired recently. He had served with Ontario Hydro, Manitoba Hydro and Winnipeg Hydro before joining the Sudbury Commission. *R. S. Reynolds*, manager, Chatham Hydro, recently turned the first sod marking construction of Chatham Public General Hospital's new \$340,000 nursing education building. He is chairman of the building committee.

## The Uniform Approach



In keeping with the town itself, which is much in the limelight as the result of its renowned Shakespearean Festival, the Stratford Public Utilities Commission is putting its best foot forward wherever it contacts the public. And as the photo suggests, the meter readers and service men have not been neglected.

They appeared on the job recently in these snappy blue uniforms complete with P.U.C. cap badges for ready identification. From the left are: Douglas Stewart, Keith Clutton, Duncan MacNicol, Hugh Ridley, Fred Canning and Ernest Long.

### Charles A. Walters Dies At Napanee

Charles A. Walters of Napanee, dean of the province's municipal electrical utility managers and the guiding force behind the town's electrical service for longer than most people can remember, died recently in his 85th year. He retired only last year after 56 years as manager of the local Hydro system.

Born in Napanee, he was selected by town fathers to build the electrical distribution system in 1904.

Through 1916, when Napanee became a local system, and 1929, when it received its first power from Ontario Hydro under a cost contract, Mr. Walters remained the key figure in the utility's operations.

He was secretary of Napanee Rotary Club for 25 years and a member of Union Lodge No. 9, AF and AM.

He leaves his wife and two sons, Dr. Allan Walters and Charles Walters, both of Toronto, and a daughter, Mrs. F. L. Shipp of Los Angeles.

### J. M. Hambley Elected

Two men from Eastern Canada, J. M. Hambley, general manager, Ontario Hydro, and H. L. Hurdle, assistant to the president, Montreal Engineering Company, where elected vice-presidents of the Canadian Electrical Association at its annual meeting held recently at Murray Bay.

D. A. Hansen, general sales manager, Calgary Power Limited, was elected president.

## LOAD-BUILDING

Practising what is being preached at Hydro gatherings across the province—the need for concerted action in promoting the increased use of electricity—District 8 O.M.E.A. held a recent load-building meeting in Chatham at which more than 125 representatives attended from almost every electrical utility within the district.

The largest gathering of utility commissioners and managers ever assembled for this purpose in District 8, the dinner meeting was designed to fulfill a four-fold purpose:

(1) Bring new commissioners up to date on what had been transpiring in the load-building field over the last few years.

(2) Punch home the need for each individual utility to assess its promotional requirements in the light of its own particular circumstances.

(3) Introduce new methods by which to achieve load-building goals.

(4) Provide an opportunity for a general exchange of information on the subject.

Those in attendance were acquainted with the



latest appliance saturation statistics compiled by Ontario Hydro and shown how they could be interpreted to reveal the need for emphasis on a specific aspect of load-building in a particular geographical district.

A feature of the meeting was an explanation of the "Treasure Chest" promotion originated by Ontario Hydro and designed to stimulate the sale of individual appliances in areas of low saturation.

The secret of the splendid turn out at this gathering was a thorough telephone campaign undertaken in advance by members of the District 8 executive.

Members of the District 8 Load Building Committee, from left to right in the photo, are: F. G. Tigwell, Point Edward; A. E. Stirling, Chatham; J. T. Barnes, Sarnia, President, District 8 O.M.E.A.; H. A. Luckins, Sarnia; and R. C. Warwick, Blenheim. ■

#### Advertising Manager Leaves Commission

A. V. Crate, manager of Ontario Hydro's Advertising and Marketing Services, left the Commission recently to accept an executive position with the British Mortgage and Trust Company.

In announcing Mr. Crate's decision, I. K. Sitzer, assistant general manager, Production and Marketing, expressed regret and said that he had played "a key role" in Hydro's marketing effort. "His contribution has been greatly appreciated," Mr. Sitzer said, "and we wish him well in his new venture."

C. W. Palmateer, supervisor of Advertising, has been named as Mr. Crate's successor.

#### Lakeshore Municipalities Inspect Lakeview G.S.

Some sixty members of councils and senior staffs of the Lakeshore communities of Oakville, Toronto Township, Port Credit and Long Branch recently took advantage of an opportunity provided by Ontario Hydro to meet their new neighbor—the Lakeview Thermal-Electric Generating Station.

After inspecting the plant from ground level to the roof-top observation area, equivalent to 20 stories, the visitors expressed surprise at the cleanliness of the coal-burning station and the "good housekeeping" in evidence throughout. They also commented on the appearance of the entrance and landscaping of the grounds. They were impressed with the ingenious public address system which permits guides to overcome plant noise in communicating with groups on tour.

#### Something New In Insulators

A new type of insulator which General Electric Company claims would save the electric power companies of the United States millions of dollars has been developed by the company. Using a combination of fiber-glass and an epoxy polymer, the new units would replace the porcelain types that have been in use more than 60 years.

According to a report in the Journal of Commerce, one thousand of the new insulators would be the equivalent of 7,000 porcelain units.

#### Primary Energy Supplied by Ontario Hydro in June

Primary energy provided by Ontario Hydro in June totalled 2.91 billion kilowatt-hours, an increase of four per cent over the same month a year ago.

For the first six months of 1963, the total is 18.7 billion kilowatt-hours, up 4.5 per cent over the same period last year.

Adjusted for seasonal influences, primary energy demand in June was 3.07 billion kilowatt-hours, 0.64 per cent lower than the previous month.

The seasonally adjusted total for June represents 36.9 billion kilowatt-hours at annual rates. This is 265.2 per cent of the energy demand in 1949. ■

#### Enthusiasm Was His Forte



In recognition of the enthusiasm and energy he brought to his four-year stint as district supervisor with the Electric Service League of Ontario in the Niagara Region, the many friends and associates of Tom Scott recently tendered a testimonial dinner on the occasion of his retirement. Previous to joining the League, in April, 1959, he had served with Ontario Hydro for 30 years—all in the West Central Region.

Mr. Scott is shown in the photograph receiving a gift from Harry Foy, League manager, on behalf of the staff. James A. Blay of Ontario Hydro presented him with a wallet on behalf of the League directors. ■

# OFF THE WIRES

"Bring 'em back alive" Johnston, the talented and fearless staff photographer who captured the spirit of the Niagara Glen so ably for this issue, also brought back a fearsome serpent of gargantuan proportions during his sojourn with nature.

Convinced he had overcome an attacking Massasauga Rattlesnake, rumored to inhabit the Glen, Ted Johnston lost no time in phoning the Royal Ontario Museum. The conversation went something like this:

"I believe I have captured a Massasauga rattler in the Niagara Glen. It struck at my hand as I reached for a wild strawberry. It coils up, rattles its tail and strikes.

"How long is it?" asked the authority.

"About 10 inches and really vicious."

"When you view it from above, can you see both its eyes clearly?"

"Oh yes—and it keeps striking at a pencil when I poke it in the box."

"Is that so?—does it have brown saddle-like markings? And are they edged with grey and brown about the shade of a freshly peeled horseshesnut?"

"It has, and they are," replied Ted with growing certainty that he had the rare and deadly rattler in his shoebox.

"Now," questioned the still imperturbed voice at the other end of the line, "is there a small, grey or white spot in the middle of its head, and is there a 'Y' shaped marking behind the eyes?"

"Yes, yes," sputtered Johnston, trembling just a trifle at his derring-do in subduing the viper.

"Fine," said the voice from the museum, "you have a healthy young milk snake."

The last Ted saw of the little beast was as it slithered over the edge of the gorge on its way back to the strawberry patch, where it probably remains to this day, harassing innocent photographers. The snake, Ted reports, was

rattling its tail, spitting in all directions and thumbing its nose as it disappeared.

In Ted's defence, it can be said that there are two native snakes to Ontario which are often mistaken for rattlesnakes. One is the milk snake and the other the fox snake. It is estimated that 95 per cent of reported observations of rattlers in Ontario can be attributed to mistaken identity. One other thing, if he had found a rattler in the Glen, it would likely have been a timber rattler, and there hasn't been a confirmed observation of a timber rattler in the Niagara Gorge for over 50 years.

Rare though they may be, rattlers can be bad medicine, and they rate a good deal more respect than was accorded the indignant young reptile in the saga above. Besides, a photographer has no business picking strawberries on the job.

Hydro News sincerely regrets that it omitted to include Mrs. Rex Martindale, the former May Boydell of Sudbury, among the survivors in paying tribute to her husband in the June issue. We have since been informed that Mrs. Martindale continues to reside at the family home in Sudbury, and that she is enjoying reasonably good health in her 78th year.

Not one to pass the buck when it comes to accepting responsibility, the Owen Sound Public Utilities Commission agreed to make an exception to its rule against hiring more than one person from the same family when two experienced employees recently announced their engagement. In coming to the decision, a commissioner noted that the P.U.C. had probably been responsible for bringing the couple together in the first place.

A recent item in the Toronto Daily Star suggests that it will

cost Metro taxpayers \$67,534 to put Sir Adam Beck in his place. A statue of Ontario Hydro's first chairman was dismantled and removed from its University Avenue site during construction of the new subway, and it will cost that much to replace it.

Be that as it may, we'll warrant contemporaries of Sir Adam spent a good deal more trying to put this outspoken and energetic proponent of public power "in his place".

Commenting on efforts across the border to have the United States issue a commemorative postage stamp to mark completion of the two-nation Niagara River power development, just recently completed on the U.S. side, the St. Catharines Standard suggests that similar activity might be expended in Canada.

Next year, which marks a century and a half of peace on the frontier between Canada and the United States since the signing of the Treaty of Ghent ending the war of 1812, would be a particularly appropriate time for the issuance of such a stamp, the paper feels.

Insofar as this joint power complex is one of the world's great engineering feats, symbolic of international accord and growing prosperity, the suggestion appears to have merit. It might even help rid foreigners of the igloo, wheat field and polar bear image we have so assiduously built up in their minds over the years.

If the dogs of Terrace Bay spend more time than they should looking at their watches, put it down to curfew trouble. Concerned that the present laws governing the canine population lacked sufficient teeth, council came up with a by-law already on the books to the effect that dogs can run from 7 p.m. to 11 p.m. from October to April. What the dogs find most confusing is the business of standard and daylight saving time.

**EVERYONE SLEEPS BETTER**

with an electric air conditioner—whatever the temperature and humidity. The air is always fresh... free of smoke, cooking fumes, pollen and dust.

Add to your comfort today.

# You Are

**LIVE BETTER ELECTRICALLY**

This is one of 17 advertisements prepared for the municipal electrical utilities to assist in their local advertising programs. They feature a uniformity of layout designed to establish continuity and a "family" resemblance. Mats or stereos are available without cost from the Advertising and Marketing Services Department of Ontario Hydro.

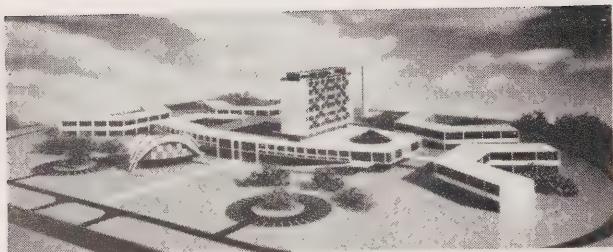
ONTARIO

# HYDRO NEWS

SEPTEMBER, 1968

In this issue: Science City ·· Brock University ·· Safety ·· Bare Hand Maintenance





So far there is little to indicate the city of science about to rise on the rolling terrain of Toronto Township, but this artist's impression of the Ontario Research Foundation's building plans suggests the shape of things to come. As the nucleus of the science community, the buildings will occupy 100 acres at hub of development. Details on page 10. ■



What has this lovely young lady to do with Hydro? She's just climbed out of a hot bath provided by a fast-recovery electric water heater, of course, and our photographer was one of thousands who invaded her privacy. She was among the attractions at Toronto Hydro's C.N.E. display. See page 9. ■

SEPTEMBER, 1963

## ONTARIO HYDRO NEWS

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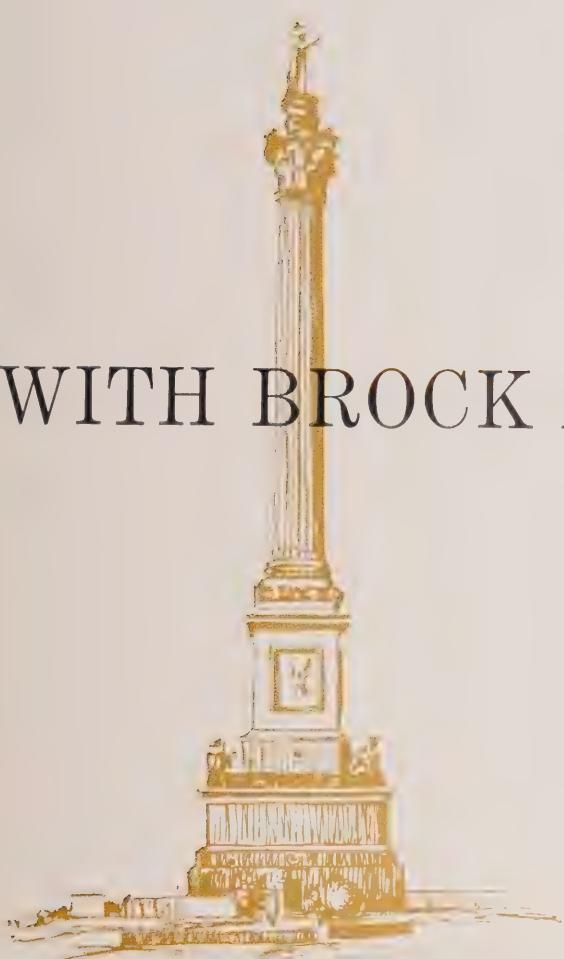
### THE COVER

What's so unusual about the routine splice operation being carried out by the gentlemen on this month's cover? Nothin' except that they are working with their hands on a 27.6 kv line while it remains energized. Further details of tests being conducted by Ontario Hydro in the use of this technique appear on page six of this issue.

### HYDRO NEWS, VOL. 50, NO. 9

Editor: Don G. Wright.

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## The entire province is WITH BROCK AT NIAGARA

are about 35,000 places in present institutions, developed over a hundred years. In other words, almost twice as many seats must be provided in seven years as were accumulated over a century.

Nor is this the whole story . . . for, in the post-war years, Ontario has already increased its institutions of higher learning from three to 18.

The urgency is prompted by the post-war wave of children now straining the resources of the elementary and secondary schools of the province—children whose opportunities for a full and useful life would be severely hampered by a lack of facilities in the field of higher education.

In the Niagara Peninsula, for example, it is estimated that by 1970 over 6,000 will be seeking a place in our university system as compared with 1,700 today. Meeting this challenge, public-spirited citizens are now well advanced with plans and arrangements for Ontario's newest university—Brock.

Located atop the Niagara escarpment, overlooking the City of St. Catharines, Lake Ontario and Ontario Hydro's two generating stations at DeCew Falls, the Brock site offers a spectacular challenge to the ingenuity of the campus designers.

One of the tallest orders ever received by the citizens of this province has recently been endorsed by the youth of Ontario, who indicate that they will require in the neighborhood of 60,000 new seats of higher learning for delivery not later than October, 1970.

To meet the deadline, governments, civic officials and public-spirited citizens throughout the province are working with a speed and urgency never before equalled in university development.

Some idea of the scope of the problem is shown by the fact that there

## Historic Hydro site selected for Ontario's newest university.

The land, over half of it acquired from Ontario Hydro, slopes gently up from Gibson Lake, headpond for the DeCew stations, to the lip of the escarpment from where it plunges in giant steps almost 300 feet to the plains below.

For the Founding Committee, all leading business executives of the Niagara Peninsula, under the chairmanship of Arthur A. Schmon, president of Ontario Paper Company, the site was the most attractive of several considered throughout the region.

Steeped in the history of Canada—within a stone's throw of DeCou house, made famous by Laura Secord—the campus property has a deep attachment for Hydro. Although not acquired by the Commission until 1930, the original DeCew generating station, built in 1898, did point the way for many of the early plants built by Ontario Hydro, such as Eugenia Falls. And it is still contributing power to the provincial network.

Because of the nature of the undertaking, 167 acres for the campus were sold by Ontario Hydro at cost and a further 155 acres turned over for university use as a greenbelt with Hydro retaining title.

Financing a new university is a formidable task, involving as it does site acquisition, campus planning,

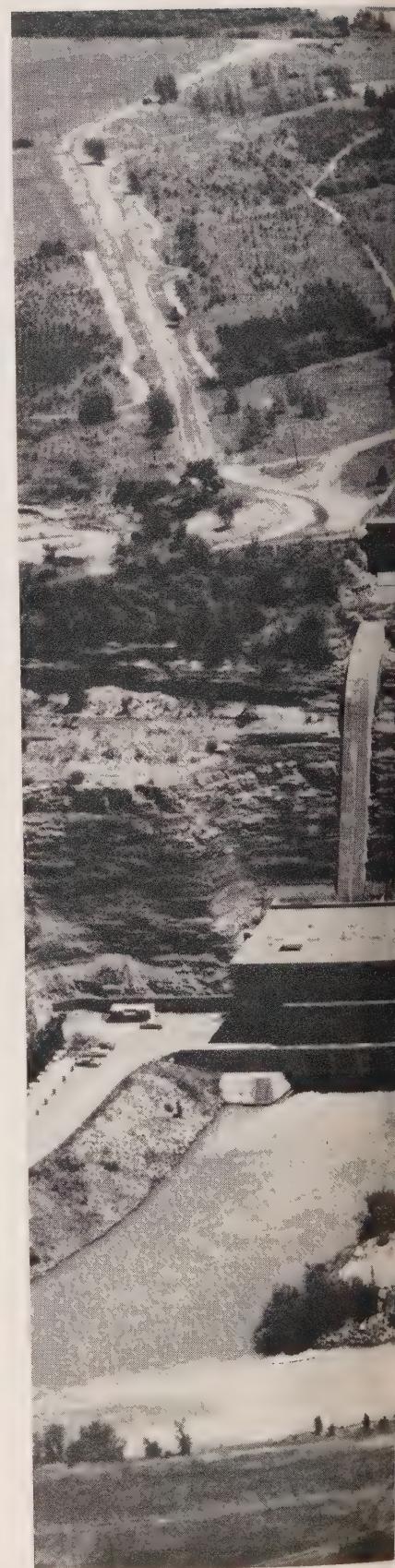
building programs, staffing problems and academic development. Brock was made possible through the generous offer of more than \$400,000 from the City of St. Catharines and grants of \$393,000 from the Province of Ontario to cover the costs of acquiring a site, meeting current expenses, developing a library and for campus planning. Other Niagara communities have also indicated their wholehearted support for the project.

But, like others before it, the success of Brock University will depend upon the calibre of men entrusted with its leadership.

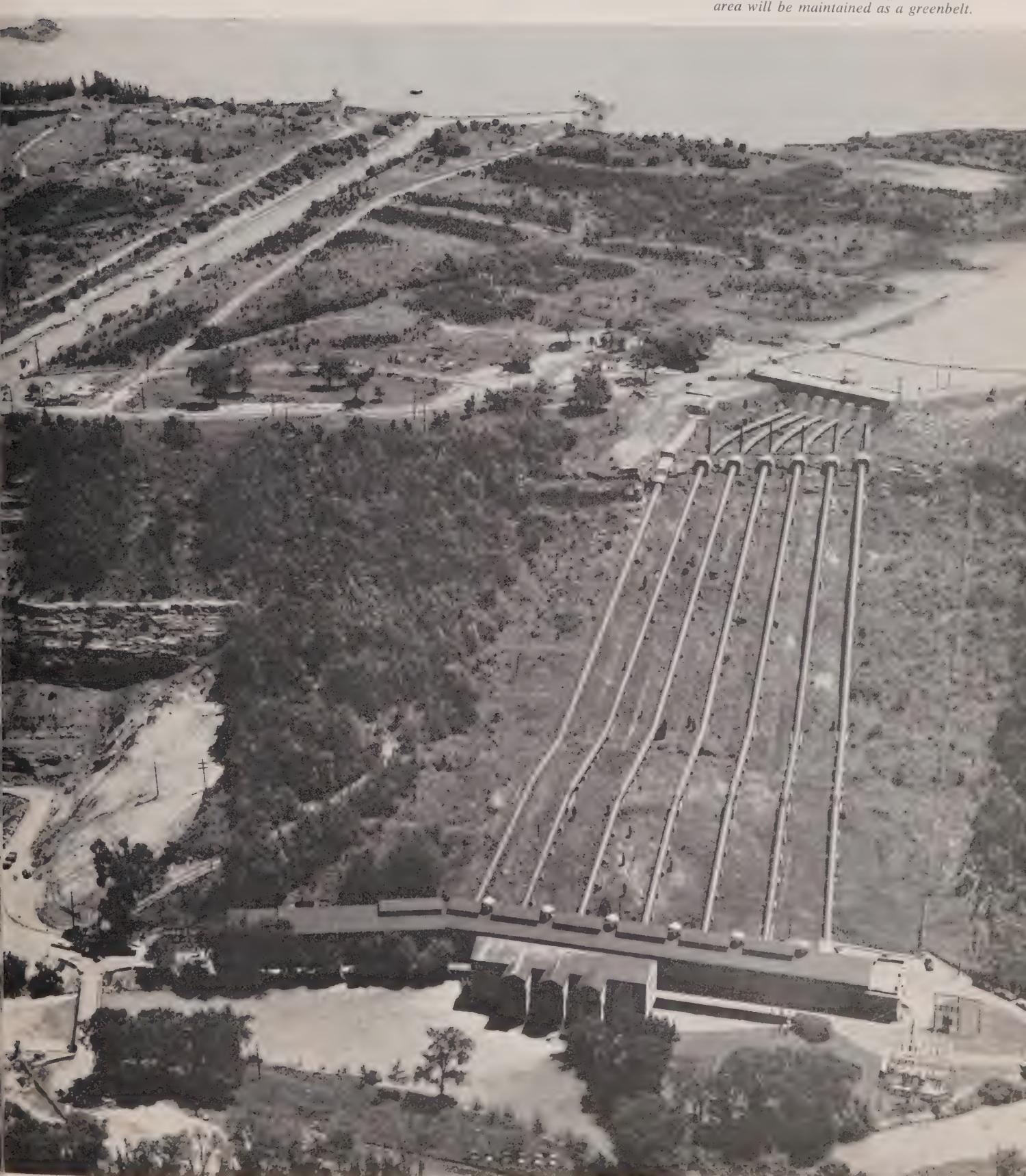
The founding committee was fortunate in its choice of Dr. S. H. Deeks, former executive director of the Industrial Foundation on Education as vice-president, Administration. No ivory tower theoretician, Dr. Deeks is a strong advocate of total involvement of the community in education at all levels.

How Brock develops will be determined, to a large extent, by the interpretation of future needs of education at the university level. As a leading figure in studies of this nature, Dr. Deeks has provided considerable insight into these requirements through his extensive public appearances as a speaker on educational subjects. Some of his thoughts are recounted overleaf. ■

*A national historic site, DeCou house, below, is just a stone's throw from Brock University campus property.*



*Aerial view of Ontario Hydro's old and new DeCew plants suggests nature of Brock University site which adjoins area to left of photo. Over half campus land was made available by the Commission at cost, while a large additional area will be maintained as a greenbelt.*



# DeCEW G. S. — OLDEST OF THEM ALL

*Some of these units were producing power when Ontario Hydro was just a glint in the public eye.*

Over half the property that will make up the campus of Brock University has been supplied at cost by Ontario Hydro from lands acquired by the Commission in 1930 when it bought the DeCew Falls Generating Station.

Often called the "cradle of the Canadian hydro-electric industry", DeCew Falls is the site of the oldest plant in the Ontario Hydro system.

The original powerhouse, built in 1897 and '98, is still in service, and has operating units dating back to 1900. Although over 60 years old, these units are still in good operating condition and the spotless generating floor is a showcase of things as they used to be at the turn of the century.

The new DeCew plant, adjacent to the original and with a common water reservoir, was built by Ontario Hydro in 1943. A second unit was added in 1947 and, side by side, the two plants are a striking example of engineering and design improvements introduced during the half century which separates them. Two units at the new plant have a combined capacity of 115,200 kilowatts compared to the nine small units in the old station, which have a combined capacity of 38,400 kilowatts.

DeCew Falls derives its name from John DeCou, one of the pioneer settlers who built a series of water-powered mills in the area, and was the first to propose the diversion of water from the Welland River for additional power. The project was a forerunner of the present Welland Canal.

The DeCou homestead is now a national historic site, for it was to this home, base of British and Canadian troops during the War of 1812-14, that Laura Secord brought information of American troop movements. As a result of this information, the Americans were repelled in a surprise attack which had considerable bearing on the outcome of the war.

Water for the powerhouse is taken from the Welland Canal near Allanburg and discharged into Lake Ontario at Port Dalhousie. An interesting feature of the new DeCew Falls plant is its water supply. To make up for the water drained from the canal for this project during the war years, Hydro agreed to divert the flow of the Ogoki River from Hudson Bay to Lake Nipigon and through the Great Lakes to Niagara.

Due to a shortage of material, the first generator and turbine unit for the new DeCew plant was taken from Ontario Hydro's Abitibi Canyon plant, where it had been used as a standby.

While the future of the old plant is now cloudy due to the trend to more modern and efficient units, DeCew Falls continues to provide its share of power for the province.

Studies at the plant indicate that the peaking capacity of the site could be increased considerably by providing downstream storage which would release tailrace waters gradually. Further studies are required to determine whether such development is economically sound. ■

*Polished and trim—some of these DeCew units are over 60 years old.*



# A CHALLENGE

*A prominent Canadian educator*

"It seems to me that there has never been a time in the history of education when we need to depend to as great an extent upon the wisdom and knowledge of individuals to interpret events as they transpire as a means of understanding the world in which we live. Change is so rapid and revolutionary that precedent can do nothing more than provide a context within which to examine current conditions and problems. This places still greater emphasis on the need for flexibility and freedom in an academic program.

"There is no more important task confronting those involved in developing Brock than developing the right kind of academic program. There is no more important aspect of Brock to the people of the Niagara Peninsula, and especially to the students who will attend it, than an academic program that truly reflects the needs of our young people in enabling them to cope with the world in which they live today and the more complex one in which they will have to live in the future."

These words of Dr. Stanley H. Deeks, administrative vice-president of Brock University, suggest the philosophy upon which Brock University is likely to be developed.

Long associated with the advancement of higher education and a nationally prominent speaker on educational affairs, Dr. Deeks has devoted many years to the study of Canadian education, particularly as it relates to industry and the community.

In this regard, Dr. Deeks proposes that Brock initiate and pursue a more vigorous approach to the social sciences.

He believes that the survival of our society as a viable and progressive one will depend on adequate research and education and the intelligent use of their results in social sciences. He

# TO THE MINDS OF MEN

*discusses the future of higher education.*

recommends that the University place special emphasis on the tremendous problems of adjustment in education, industrial activity, monetary and fiscal policies, government, labor and other social areas.

He points to the fact that the opportunities for employment in the skills and trades are becoming limited under the impact of automation. How workers so displaced can find satisfaction in a world oriented to a working philosophy becomes of prime importance.

"The magnitude of this problem is emphasized," he continues, "when we consider that only about 25 per cent of our population is intellectually capable of absorbing a university course at the present level of difficulty. As society becomes more complex it will be reflected in the rising level of difficulty of university courses."

In the humanities, perhaps the oldest division of knowledge, Dr. Deeks points out that our present studies of philosophy, history, literature and religion are almost exclusively oriented to those of the Mediterranean, Western Europe and North America. We must, therefore, offer education in the Slavic, Chinese, Indian, Islamic, Asiatic and other smaller cultures of Africa and South America if we are to understand and co-operate with the newly emerging nations of the world.

Summing up the task ahead of Brock University, Dr. Deeks says, "It must first build up an inventory of the body of knowledge that has been accumulated in the various areas in which it will be involved in the form of an efficient and extensive library in this respect, a provincial grant of \$75,000 has been provided). It must acquire an academic research staff which will be able to keep pace with the changes that are taking

place in this body of knowledge through the activities of other universities and research establishments and add to it in its own right.

"It must also acquire an academic staff to disseminate this knowledge in a practical and effective way to its student body to ensure our society of well qualified, well informed young people who will be able to assume positions of leadership in the complex world of the future."

To solve the difficulty of obtaining a well-qualified staff, many possible avenues are now being explored. Set as it is at the core of a highly industrial area, Dr. Deeks anticipates that Brock will attract a scientific complex around its fringe as industry co-operates in the establishment of scientific laboratories. This in turn would provide a pool of both knowledge and qualified instructors for the university.

Already, industry throughout the Peninsula has indicated its willingness to lend scientific personnel to the University for special lecturing.

To Dr. Deeks, such offers are providing the stimulus for study of further areas of co-operation between Brock University and the industrial community, which has already provided the time and effort of its top executives to serve on the Founding Committee.

This is a stiff challenge for the Founding Committee, but one which they will take in their stride and solve as they have the site problems which faced them earlier in the development stage.

The ability to attract men of Dr. Deeks' stature to the faculty speaks well for the future of Brock University — still largely in the hearts and minds of men but soon to take physical shape in bricks and mortar. ■



## Dr. Stanley H. Deeks

Few Canadians have been more directly concerned with the course of higher education in Canada than Dr. Stanley H. Deeks, vice-president, Administration, Brock University.

As executive secretary of the organizing committee of the St. Andrews Conference on Education, in 1956, Dr. Deeks prepared a brief on Canada's education performance and prepared a 25-year forecast on educational requirements. Prior to becoming vice-president of Brock University he was executive director of the Industrial Foundation on Education. The Foundation is devoted to the establishment of firmer links between the business community and Canada's educational needs. He also figured prominently in the foundation of the Canadian Conference on Education which aims at defining Canada's educational problems.

In addition, Dr. Deeks served on the Federal Government's advisory committee on professional manpower and he is a past president of the Ontario Educational Research Council. He was one of the prime movers in launching Toronto's York University, having served as a member of the organizing committee and a member of the provisional board of governors.

He holds an honorary Ph.D. in economics from the University of Sherbrooke. ■



## LIVE LINES a



*Aloft in their insulated buckets, top photo, linemen Gary Eckensweiler, left, and Ed Brunton, clamp on electro-mechanical jumper before proceeding with splice on live 27.6 kv line. Photo, above, shows vehicle equipped with non-conducting boom.*

When the first bird roosted on a Hydro line and lived to chirp about it, he was illustrating a principle now being tested by Ontario Hydro as a means of improving service and reducing maintenance costs.

The principle—that high voltages are safe to touch provided there is no ground connection—can now be put to use due to the development of insulated buckets, hydraulically controlled on a non-conducting boom which, in effect, isolates the operator from the ground. Thus ensconced, the lineman can work on the conductor with bare hands while the line remains energized.

This new live-line maintenance technique is undergoing tests by Ontario Hydro in the rehabilitation of some 14 miles of 27,600-volt transmission line in the Ayr-Drumbo-Paris area. Built in 1914, the line has had to be taken out of service several times to permit the replacement of faulty splices. The new method allows linemen to replace these splices under full power, working on the live lines with bare hands.

Ontario Hydro's use of the technique is still on an experimental basis, and is being done by a specially

trained crew. Present tests will enable the Commission to assess its value and, if it gets the green light, to develop safe working procedures.

The method is particularly adapted to mid-span work where the chance of grounding through contact with poles and other line hardware is eliminated.

In action, the linemen—working in pairs—position their truck-mounted two-man aerial bucket in such a manner that it is free of all wires except the one being rehabilitated. Using special clamps, they put tension on the line, cut out the defective splice, replace with a new splice and move on to the next replacement.

While this type of aerial bucket has been used in the past by foresters and as a platform for line work, it is the first time in Commission history that bare-hand, live-line work has been attempted.

To the specially trained crew, consisting of two linemen and the foreman of Niagara Region's travelling line gang, the new technique is an extension of training and use in live-line tools, which, over the past decade, have greatly reduced the necessity of removing high tension



## BARE HANDS

lines from service to carry out routine maintenance work.

To protect the linemen from the electrical field which exists close to live lines, shielding is provided in the form of a metal bucket liner which is bonded to the line by means of jumpers. They have even learned to eliminate the initial unpleasant static shock of contact with the live line through the use of conducting shoes. This maintains the linemen's bodies at line potential.

This static shock—while not dangerous—can be compared to the shock one receives when touching a metal object after walking across a dry rug.

Strict safety precautions were adopted by the Commission in every step of training. After participating in laboratory controlled tests at the W. P. Dobson Research Laboratories working on live lines, the men were given two weeks of training at both Burlington and Paris working on non-energized lines.

For the future, T. J. Burgess, Ontario Hydro's line maintenance engineer, sees increased use of insulated buckets in line rehabilitation. While the program is currently limited to

lines of up to 44,000 volts, the development of longer insulated booms is expected to increase this ceiling. As with other live-line tools, Mr. Burgess says, the emphasis will be on safety, and as new applications arise they will be evaluated and, if satisfactory, will be incorporated into current practices.

For example, the buckets provide an excellent work platform for live-line work with ordinary hot-line tools. By using them when available, hard climbing is eliminated and the useful life of well-trained but not so agile older linemen is extended.

While the cost of this equipment may be a deterrent to its widespread use throughout the Commission, all factors affecting cost must be considered. Savings on the Ayr-Drumbo-Paris rehabilitation work, for example, are estimated at \$35,000 since, formerly, the line would have had to be completely restrung.

What does it feel like to work on a live line with bare hands after years of training geared to avoid contact at all costs? According to the linemen there is absolutely no physical sensation, but it does take a bit of mental re-orientation. ■

*Prior to commencing bare hand work, linemen, above, overcome electrical field surrounding conductor by bonding metal bucket liner to line with jumpers. Linemen's bodies are maintained at line potential.*



# HYDRO IS TOPS AT THE C.N.E.

Aside from their effectiveness in the load-building field, the Hydro displays at the 1963 Canadian National Exhibition couldn't help but make better friends out of customers and better customers out of friends.

The three major displays in the Better Living Centre drew at least as many visitors as last year, and this means a quarter of a million people left the grounds with a better understanding of electricity and the role Ontario Hydro plays in its supply. Changes for the sake of change were out at this year's showing although subtle improvements up-graded a presentation which many unbiased observers did not hesitate to name "best in show". They meant that to include the entire C.N.E.

An innovation was the addition of a reception room where visitors could learn more about the latest in appliances, such as they had seen in the Medallion Home display, and about home heating. Here, Hydro representatives were on hand to deal with their questions and to guide them in

*Informative displays presented by comely high school students featured this year's C.N.E. displays by Ontario Hydro. In photo, top left, Gail Murdock explains intricacies of Lakeview G.S. while Margo McHenry, top right, talks about Douglas Point. Exhibits were housed in Better Living Centre, left. Impressive "Rain Cycle" exhibit, lower left, drew continuous crowds as did Betty Sabota, lower right, with tableaux — "Story of Light and Heat".*

their quest for additional information.

All displays were arranged in sequence so that visitors, upon entering the building, first viewed a series of five tableaux, "The Story of Light and Heat", showing man's progress in these fields from the day of the cavemen, and leading to the Gold Medallion home exhibit. Each had a complement of well-trained competent and comely high school girls providing commentary.

Other charmers explained the "Rain Cycle", a large model with sound and motion offering a dramatic explanation of the cloud-to-water-to-cloud phenomena upon which our existence is dependent. Better lighting effects and more turbulence during the storm sequence increased its effectiveness. Guided by last year's experience, Hydro provided an elevated ramp, enabling twice as many people to view the display at one time.

Elsewhere in the 7,500 square feet of display area, there was a working model of the Douglas Point nuclear power station and a cut-away of the Lakeview thermal-electric plant. New photographs and texts on the display panels succeeded in streamlining and simplifying the presentations.

Toronto Hydro, a long-time neighbor of the provincial Commission at the C.N.E., lived up to its well-earned reputation in the display field—

ingeniously combining a fashion show with load promotion.

The half-hour show, in six sequences, used three professional models to show the latest Vogue fashions. Darlene Laing (for years "Ann Allen, the Hydro Home-maker") did the commentary.

Scene two in the sequence suggests how the gap was closed between fashion and kilowatts. Very chic in the latest cocktail creation, complete with mink jacket, the model was shown beside an electric range. In addition to telling the ladies what they wanted to know about the clothing, the commentary brought home the legitimate point that the lady was free at the touch of a dial to get on with the party. Dinner would be cooking in her absence. A similar approach linked evening clothes with the dishwasher.

Reluctant males coaxed into the "fashion show" by their wives found the latest appliances of interest—and the model in a negligee didn't bore them, either. She was ready for the evening, the commentary explained, after a sumptuous bath provided by a modern electric water heater. ■

*There was usually standing room only whenever the curtain went up on Toronto Hydro's theatre of "Fashions in Electric Living" at the C.N.E. Presentation featured combination of appliances and fashions as illustrated in photo, below. Pretty model "does the dishes" in her evening clothes.*



# SITE FOR SCIENCE

*Unique in Canada  
the Ontario Research Community  
will be among the  
finest developments of its kind in the world*



*This is how one artist visualizes the new city of science as it will appear about 1970. Facilities of Ontario Research Foundation will form hub.*

There wasn't anything overly impressive about the sod-turning ceremony which took place early this year in a wind-swept Toronto Township field but the simple act had implications which will affect the Canadian economy for years to come.

It marked the birth of the Ontario Research Community at Sheridan Park, located on a 293-acre-site bordering the Queen Elizabeth Highway, 17 miles west of Toronto. In essence, the project is a joint undertaking of industry and the Ontario Research Foundation designed to create the kind of environment in which research and scientific personnel can perform and develop most effectively.

As the nucleus of the new science centre, the O.R.F. will occupy 100 acres at the hub of the development. Three major companies, Consolidated Mining and Smelting Company of Canada, Dunlop Rubber Company, and the International Nickel Company of Canada, have already signified their intention of locating research laboratories in the community.

"I expect total population on the site to eventually reach six to ten thousand people," said Dr. A. D. Misener, director of the O.R.F., at the

opening ceremonies. "We look for this centre to attract technical societies from all parts of the continent, as a site for their conventions and seminars."

Planned as a prestige research community, it will include a multi-storied building containing a computer centre, banks, small retail stores and office suites for professional engineers and other business ancillary to research. It is expected to be available for leasing in 1964.

Future plans will make such other facilities as a conference centre, auditoriums and recreation clubrooms available on a commercial basis to all those participating in the community. Enthusiastic participants in the early stages of the development predict that at least 20 industries will have built laboratories on the site within a 10-year period. They envision employment opportunities which will attract scientific personnel on a scale such as to create international technical interest.

Underlying the creation of this city of science was the Ontario Research Foundation's decision to move to a new location because of space limitations at its present quarters in down-

town Toronto. The idea of selecting a site where industry could conveniently locate in close proximity seemed to offer advantages and a study was launched to ensure that the over-all concept was sound. Because it was not affiliated with any particular industry and because it was not a government institution, the Foundation was considered to be the ideal organization to serve as the cornerstone and to take the initiative.

After careful consideration the site was selected and Sheridan Park Research Community Incorporated formed as the result of an agreement between the O.R.F. and United Lands Corporation. Under the agreement, all land not actually owned by the O.R.F., but included in the plan of development for the research community, will be made available, as developed, to private industry for the siting and erection of research facilities.

In commanding United Lands for its assistance, Dr. Misener said: "When we agreed to this site, United Lands accepted about the most restrictive terms ever imposed on a land development company — exhibiting an altruistic as well as a commercial



*Professional tower to be located in the new research community will look something like this. It will contain data processing centre and offices.*

interest in the project." The agreement includes the stipulations that no manufacturing of any sort will be permitted; no parcel of land shall be less than three acres and not more than 25 per cent of any parcel will be covered by buildings.

Recognizing the importance of technological research in the development of the province, the Ontario Government agreed to provide one half of the extra funds necessary for the Ontario Research Foundation to relocate and rebuild. The Foundation will be required to finance the remainder. It estimates that \$7,500,000 will provide sufficient accommodation in land, buildings and services until 1965 and that an additional \$5,000,000 will be required for expansion between 1965 and 1970.

For over 30 years the O.R.F. has undertaken research and development for industry and government on a contract basis. An independent, non-profit research institute, it enjoys the support and co-operation of the Ontario Government in many of its activities.

Although many of its scientists are engaged in basic, fundamental research, most of O.R.F.'s work is with

applied research—the application of established knowledge to manufacturing techniques and products. The borderline with basic research often is difficult to distinguish, its scientists point out, and it is neither possible nor desirable to draw a hard and fast line.

Suggesting the role research has come to play in our industrial society, Herbert H. Lank, president, DuPont of Canada Limited, recently said: "Today in our own company we believe that at least 60 per cent of our 1975 sales revenue will be derived from products now in their infancy or yet to be conceived."

On a similar note, Dr. Misener has said: "Now, more than ever before, research is being accepted as the key to industrial progress."

With reference to the new Ontario Research Community, Dr. Misener states: "Already, based only on the plans of those who definitely intend to participate in the community, it is certain that it will be Canada's largest composite research facility. It will do much to attract top scientists to Canada, and will be effective in stemming the flow of Canada's scientific talent to other countries." ■

## HYDRO SERVES SCIENCE

In keeping with the highly-specialized nature of the Ontario Research Community, all of its services will be extra-ordinary. The research-conscious Bell Telephone Company will install every new communications facility as it is conceived. An unlimited supply of natural gas and water will be provided while the electrical service is also being planned to the highest possible standards.

Commenting on this aspect of the community's essential services, Ross Lamb, operations engineer, Toronto Township Hydro, stressed that continuity of electrical supply would be a first consideration. Prestige is secondary but important, as he sees it, and this will be achieved by having all services underground.

Concrete is already being poured for a transformer station designed for an ultimate capacity of 30,000 kva but with so many unknowns to contend with at this stage of the development, the utility is emphasizing flexibility to avoid unnecessary outlays before the load actually materializes.

Two banks of three, 5,000 kva transformers will be installed as required and distribution will be at 13.8 kv through duplicate underground feeders. A "normal-reserve" feeder-selector switch on the customers' premises will enable them to switch over to alternate supply in the event of a power failure.

Present indications are that the four original occupants of the science community will have, together, an initial requirement of about 4,000 kilowatts. As is usually the case throughout the province, whatever the need, electric power will be ready and waiting. ■

*With the municipal  
electrical utilities  
of Ontario . . .*

## **SAFETY COMES FIRST**

by Paul Chisholm

Leaning over the primary distribution arm to tighten a three-bolt clamp, the lineman's right forearm made contact with the live conductor above his rubber glove.

He was an experienced lineman on a routine job in a small Ontario city but he dropped his mental guard for a moment, violated safe working procedures, and ended up in the hospital. Suffering third degree burns to his arm and right foot, he required several month's treatment and counted himself lucky to be alive.

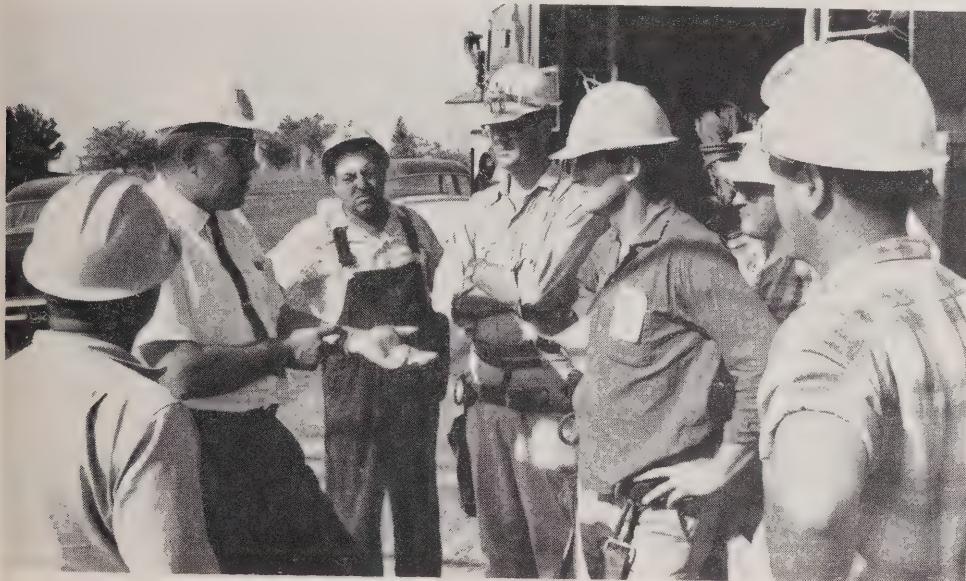
During the man's absence from work, his hospital, physical rehabilitation and doctor's fees were paid, and he received 75 per cent of his wages from the Workmen's Compensation Board, whose funds are derived from employer assessments. In this particular case, the lineman went on to job retraining and although today he has a permanent limp and a defective hand, he is doing a first-class job as a meter technician with the same utility.

Quite aside from the personal tragedy involved, then, accidents cost



**Photographs depict typical day of a field safety supervisor with the Electrical Utilities Safety Association.**

**Moe Sheppherd was visiting Scarborough Public Utilities Commission.**



*Joining a line crew on the job, Moe goes over details of a recent accident and invites comment on any matter pertaining to safety. He has them enact a pole-top rescue, opposite page, and checks such points as date rubber gloves were last tested at a laboratory.*

money and the municipal electrical utilities of Ontario are doing everything in their power to develop an attitude conducive to safety, while constantly improving work procedures and equipment.

While many of the utilities have their own safety programs, and some have appointed safety officers, the continuing programs of the Electrical Utilities Safety Association of Ontario are relied on heavily.

Now in its 48th year, the association includes in its membership 243 municipal utilities, 44 municipal telephone companies, six private power companies, 81 private telephone companies and 33 contracting firms. Approximately 75 per cent of utilities who employ staff, and the same percentage of the telephone industry, are members.

Ontario Hydro, with its province-wide operations and extensive staff, maintains its own Accident Prevention Division with complete provision for all aspects of safety training. It co-operates with E.U.S.A. and other leading accident prevention agencies

in the utility field.

Conducting E.U.S.A. affairs is a 15-man board of directors elected annually by the membership. The current president is A. W. H. Taber, manager and secretary-treasurer of the Fort William Hydro-Electric Commission. Permanent staff consists of a manager and secretary-treasurer, an assistant manager, four field safety supervisors, a safety promotion representative and two secretaries.

Headquarters are in Toronto and for administrative purposes, the province is divided into four districts with field men strategically located at Smiths Falls (Eastern) Preston (West Central-Lakehead) St. Marys (Western) and Toronto (Toronto-Northern).

One of the most effective techniques developed by the association in the pursuit of safety is accident analysis. Every serious utility accident is investigated in depth by the field safety supervisors, and the actual situation is re-created for photographic purposes. These special reports, which are impersonal and carry no

recommendations, are circularized to all members of the association, who make them available to supervisors and employees. The contents are also mulled over at regularly scheduled safety meetings held at the individual utilities, and are discussed by the field safety supervisors with crews on the job.

"The safety message is obvious in all these reports, and we feel it has greater impact if it is not emphasized by recommendations," explains Harry G. Flack, E.U.S.A. manager and secretary-treasurer. "In most cases it is the same story: lack of adequate precautions and violations of well-known safe practices. This we know will be raised time and again in resulting discussions."

Accident studies are just one front in E.U.S.A.'s continuing battle. The association regularly arranges one-day supervisory meetings throughout the province to enable supervisors from regional utilities to hear talks by top safety experts, listen to panel discussions and pose their own questions. It also publishes a monthly journal

## Routine mishaps outnumber electrical accidents 20 to one.



Like most of his staff, E.U.S.A. manager Harry Flack is former lineman.



With precision of a military drill team, well-trained Scarborough line crew swings into resuscitation procedure for electric shock following simulated pole-top rescue.

and regular newsletters, and maintains a library of pertinent films and film clips. This fall, the association, in co-operation with the AMEU and Ontario Hydro, will launch special safety courses in the use of aerial basket equipment for supervisors and other key personnel at a school to be conducted at Niagara Falls.

Close liaison with sister groups enables E.U.S.A. to benefit from — and contribute to — a free exchange of safety ideas. It is constantly in touch, both formally and informally, with the Accident Prevention Committee of the Edison Electric Institute, the Public Utilities Section of the National Safety Council, the Accident Prevention Division of Ontario Hydro, and the Canadian Electrical Association.

The usual run of industrial accidents is by far the most frequent in utility operations, outnumbering electrical 20 to one. Last year, for instance, injuries from lifting and handling heavy equipment or tools, and "slip and fall" mishaps, represented

more than half of the 176 compensable injuries to utility personnel recorded by the Compensation Board. Total cost in terms of compensation for the injured, pensions for dependents, and hospital and medical fees, was \$243,305.

Electrical accidents, on the other hand, ranking only ninth on a list of 13 utility accident categories, are usually the most severe and costly.

While the only fatality last year was due to an automobile accident (which subsequent investigation suggested might have been restricted to injury had a seat belt been used), three electrical fatalities in the first four months of 1963 brings to 26 the number of member utility people electrocuted in the province during the last 10 years.

All but four of these fatalities — which occurred in substations — were pole line accidents, and could have been avoided by strict observance of E.U.S.A.'s rubber glove rule, according to Mr. Flack.

This is one of the numerous regu-

lations clearly spelled out in the 200 pages of E.U.S.A.'s red, leather-covered rule and procedure book. All member utilities agree to abide by the book's contents, and most insist that their employees accept them as a condition of employment.

Rule book contents include not only the procedures for working on electrical facilities, but such topics as how to place ladders safely, tie knots and handle loads, first aid administration, weight and stress scales . . . and even how to deal with vicious dogs.

On-the-spot studies of utility facilities and work procedures account for most of the 110,000 miles chalked up annually by E.U.S.A. personnel during the course of their activities. After discussions, the field man leaves an Accident Prevention Survey Report, together with recommendations, in the hands of the utility and a copy goes to E.U.S.A.'s files. A tear-off strip is filled in and returned by the utility when it has carried out the recommendations.

At least 400 of these reports are



*"Do not operate" tag affixed to substation unit being serviced is vital safety measure.*

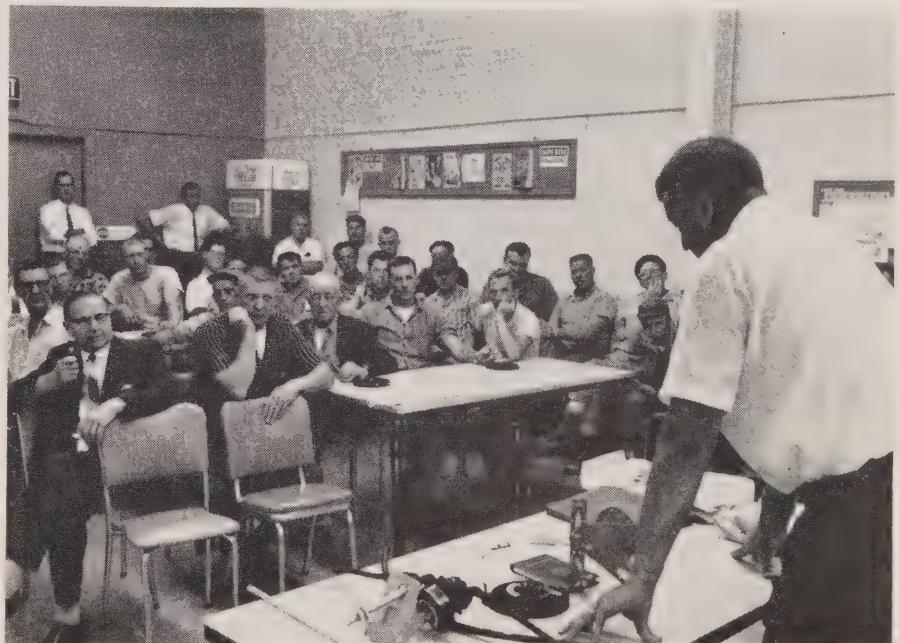


*On visit to meter shop, Moe is pleased to find technician wearing safety glasses as he operates air chisel to remove seal. Superintendent Joe Douglas looks on.*

made each year, and as the association's last annual report pointed out . . . "the greater part of the membership has accepted this self-disciplinary program and is responding very favorably to recommended practices."

And so the fight to prevent accidents goes on. It must be continuing and relentless, but it must also be carried out with all the knowledge and experience in human relations at the association's disposal to avoid the risk of engendering a "ho-hum — not again" attitude. While necessity dictates that every utility job be carefully analysed from the stand-point of safe working procedures, and every piece of equipment be similarly appraised, accident after accident suggests that it is the human element where the emphasis must be placed.

Experts are agreed that safety is largely a state of mind and it is in this direction that the people who are responsible for accident prevention among the utilities of Ontario find their task the most difficult and the challenge the greatest. ■



*As many utility personnel as can be spared are required to attend meetings conducted by field safety supervisors. Fatalities and other severe accidents are reconstructed in detail and the men asked to suggest where victim went wrong in his working procedure. Safe practice violations are almost always the cause.*



# NEWPOST CREEK DIVERSION

*Hydro forces*

*shuffle northern topography  
in pursuit of power.*

Every contribution is welcome in Ontario Hydro's continuing campaign to utilize the water resources of the province for the production of power and the energy to be given up by the Little Abitibi River will be accepted with thanks.

But the donation was not unsolicited. For the last few months a 60-80-man Hydro construction force has been at work in the interior of the muskeg and swamp country about 90 miles north of Cochrane, draining a lake, digging two miles of canals through glacial ooze, damming a river and utilizing a meandering creek as a sluiceway.

In essence, they are altering the course of the Little Abitibi River so that it will flow into the Abitibi proper, upstream of Otter Rapids rather than downstream as nature had intended.

The change will provide an estimated 64,600,000 kilowatt-hours of additional energy annually at Otter Rapids G. S. while the increased flow will also result in raising the power

potential at two proposed downstream sites.

A more inaccessible project would be difficult to envision. It was launched last winter when a 19-mile road was punched through the bush from Abitibi Canyon. Readily built over the frozen muskeg, the road was used to haul in all the necessary heavy equipment before the terrain became impassable with the spring breakup. Since then, aircraft have provided the only access.

But in spite of the isolation and rugged conditions encountered, the project will be in service in advance of the October 31 deadline established at the outset. Involved are the construction of a 450-foot timber crib dam across the Little Abitibi River, earth dyke extensions at either end—and a lot of digging.

As the headpond forms behind the dam, the water will flow down a 7,000-foot canal into Worobec Lake, out of the lake into a 3,000-foot canal and then down short Worobec Creek into Newpost Creek and the Abitibi River.

During construction of the upstream canal a small body of water, dubbed Lake "A", was partially drained and dykes pushed out on either side of the canal site to hold back the glacial ooze which could swallow a vehicle in a few minutes.

*Another link in Ontario Hydro's new power network in the northeastern part of the province was forged recently with the official opening of Otter Rapids Generating Station. The opening was a prelude to a series of achievements which will provide an additional 209,000 kilowatts for the province by mid-November. Further details will appear in the October issue of Hydro News.* ■

To speed the work, many of the timbers for the dam were pre-cut and all were creosoted before shipment to the site. "The dam fits together like a jig-saw puzzle," explains Graham Baggs, resident engineer. He points out that the extensive canal excavation was carried out by standard drag-line methods with a second "cast" often being required to prevent the almost-liquid muskeg from flowing back into the excavation.

With the back of the project broken, most of the men will soon be flying out to relate proudly how they put the Newpost Creek diversion on the map. But some will stay on until freeze-up when the road will be restored. A parade of heavy equipment back to civilization will herald the end of another victory over the northern wilds. ■

*Isolated construction camp, left, at Worobec lake, is where Hydro crews have spent several months on the Newpost Creek diversion. Summer access is by aircraft only. Photo, lower right, shows drag-line method of canal excavation employed. Fine winter pad, below, reverts to quagmire in summer.*



*As much money as you can hold in your hand is the incentive in this ingenious load-building feature.*



# TREASURE CHEST SPECIAL

An instant load-building campaign—just add local requirements and promote—is now available to the electrical utilities of Ontario.

Drafted by Ontario Hydro's Sales Division, the unique format of the "Treasure Chest Special" can be tailored to the needs of individual municipal utilities wishing to promote electrical appliances not suited to a province-wide campaign.

For example, some utilities may feel the need of an electric range promotion since surveys reveal saturations as low as 18 to 44 per cent in some areas. But across the province, electric ranges enjoy a high saturation which has steadily increased over the past 10 years to an all-time high of 76 per cent. Since Hydro's concern is with energy sales, and new ranges use no more electricity than older models, a promotional campaign on a province-wide scale is not warranted.



*Ontario Hydro's Louise Miller, home economist, finds dainty hand limits cash bonus.*

Similarly, air-conditioning units might be successfully promoted in the Toronto - Hamilton - Windsor areas, whereas the limited market in the colder climates of Georgian Bay, Northeastern, and Northwestern Regions could rule out a sales campaign in these districts.

By making use of a flexible campaign which can be adapted to local conditions, utilities can take advantage of low-cost dealer display material mass-produced for a large number of campaigns. And because only local dealers and a single utility are involved in each Treasure Chest Special, a promotion can be launched on short notice to take advantage of prevailing conditions.

Focal point of each campaign will be a pirate's chest filled with new coins, available from Ontario Hydro—minus the coins—for use by dealers. Purchasers of the appliance being promoted will be entitled to take a

handful of coins, probably from a separate bag, and the sum he can handle will be applied against the purchase price of the appliance.

The amount of money a purchaser is able to hold can be dictated by the value of coins included in the chest. As a bonus during an electric blanket promotion, for example, the pirate's chest would be filled with pennies. A large handful of pennies usually comes to about \$3.00. For larger appliances, nickels or quarters could be used for bonuses up to \$35.00.

At the end of the campaign period, the utility conducting the campaign agrees to pay dealers a flat stipulated sum for each appliance they have sold. This will be approximately 50 per cent of the customer bonus.

It sounds as if instant load-building campaigns should soon be as popular as cake mixes. And here's one instance where the ham-fisted gentry come into their own.

Fast acquiring a reputation as a live-wire utility in constant search of new and improved methods of serving its customers, Brampton Hydro has come up with another innovation—this time in the field of underground distribution.

What at first glance appears to be a conventional and attractive lamp standard on a street in Peel Village subdivision, is really something more. Installed on a trial basis, the standard encloses a transformer as well as primary and secondary switch gear. There is also provision for telephone service—all at no cost to the appearance of the lamp standard.

Produced by Reliance Electric Company at the suggestions of Vernon Breen, manager, and Roy Taylor, assistant manager, Brampton Hydro, the standard is one of six to be given a trial.

Commenting on its advantages in an underground distribution system, Mr. Breen said that it eliminates transformer kiosks and pedestals together with the need for private property easements. He indicated that the combined street lighting and distribution unit would be further developed in the future. ■

You will have a tough time finding Flossie, Linko and Dogtooth on a map of Northern Ontario, but Ontario Hydro supplied first power to these places only this spring.

They are among the 39 Ontario sites along a new microwave network being built by Canadian Pacific-Canadian National Telecommunications. Scheduled for service by the end of 1963, the \$36,000,000 network will include 136 microwave relay towers between Montreal and Vancouver.

Ontario Hydro crews built more than 115 miles of distribution line, mostly in Northern Ontario, to serve the Ontario relay stations. Much of the work was done over rugged terrain with the help of helicopters.

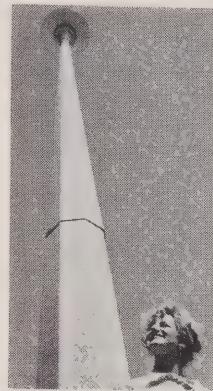
Hydro's part in the project was completed on schedule early in June. Most of the new distribution line will be owned initially by the network and will be purchased by Hydro when customer density requirements are met.

Each site consists of a prefabricated steel tower and a building to house microwave equipment and stand-by power facilities. Towers are spaced approximately 35 miles apart.

Initially the microwave network will consist of two channels, each capable of providing 600 voice circuits. Provision has been made for additional channels as needed.

The network will be primarily used for commercial and business communications, but it will be capable of carrying black and white or color television signals. For strategic defence purposes, the route is generally well away from existing communication facilities spanning the country. ■

## STREET LAMP WITH A DIFFERENCE



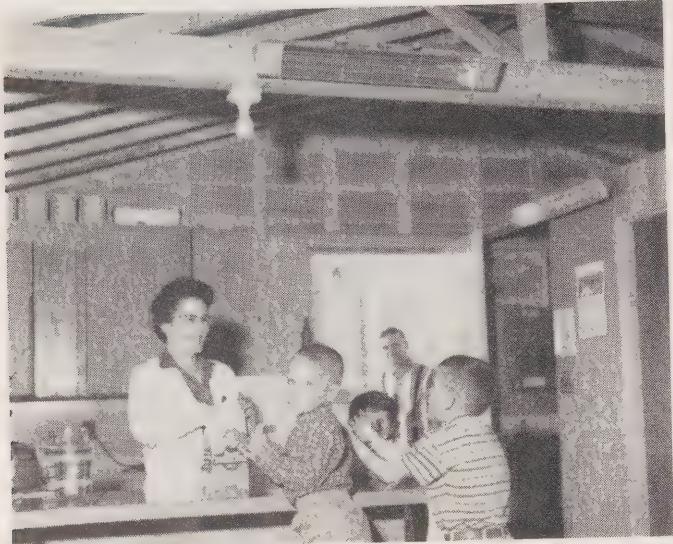
*There is more to this handsome light standard than meets the eye. Close-up of base reveals transformer and switchgear enclosure. Brampton Hydro Manager Vern Breen and Roy Taylor inspect trial installation.*

## FIRST POWER FOR DOGTOOTH



*Ontario Hydro built more than 115 miles of distribution line through rugged north to supply relay stations like this. New Montreal to Vancouver telecommunications network is scheduled for service this year.*

# PEOPLE HEATERS BEAT SUMMER COTTAGE CHILL



*Infra-red heaters mounted on ceiling joists keep the Churchill family comfortable these cool fall weekends at the cottage. Instant heat has it all over traditional wood stove, they contend.*

Unseasonable temperatures in resort country near Parry Sound never bother Ken Churchill and his family, who have installed infra-red heaters on the ceiling joists of their cottage.

Often called people heaters, infra-red rays are like the rays of the sun. They do not heat the air through which they travel—just the people or objects they strike.

Ken Churchill, a sales and service representative in Ontario Hydro's Parry Sound Area, lives in the cottage full time during July and August, closing it for the winter in early November. In explaining his choice of heating, Ken says: "the cottage has open sidewalls and open ceilings, with no insulation. Any other type of heating would have required too much capacity."

"Infra-red heating is best suited for cottages which won't be used all winter long. For spring and fall weekends, and summer nights when the temperature drops, it's ideal," he says.

Five of the units, each of 1,200 watts capacity, are mounted on the ceiling in the front half, or living-dining-kitchen section of the cottage. This works out to about 20 watts per square foot of area to be heated.

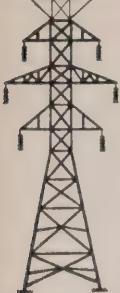
All three small bedrooms in the rear of the cottage are wired so that portable baseboard electric heaters can be plugged in. So far, the portable heaters have never been used.



## INTERFERENCE SUPPRESSOR

Among the latest aids to improved system operation and maintenance developed by the Research Division of Ontario Hydro is the compact Mark IIIA Phase Shifter Interference Suppressor. Shown in the photograph at the left hand of the inventor, Moshe Kurtz of the Dielectrics section, the instrument suppresses interference in the vicinity of high-voltage conductors, making it possible to test the condition of insulation in installed apparatus. The job formerly required the co-operation of two men and involved the use of heavy, high-voltage equipment to kill interference.

Testing of insulation in electrical equipment is an important and continuing operation carried out by the Commission at installations throughout Ontario, not only in the interests of safety, but to assure maximum efficiency in maintaining round-the-clock service to customers. Bushing insulation being tested in the photograph is at one of the Commission's transformer stations.



# along hydro lines

## Giant Parade Marks New Lights at St. Thomas

One of the largest parades in the history of St. Thomas turned out to mark the recent switching on of a new \$83,500 street lighting system in the downtown core of the city. In addition to the parade, which featured clowns, majorettes and bands, the gala event included prizes for decorations, a street dance and a military retreat.

A total of 168 old lamps were removed during the relighting project. They were replaced with 105 fluorescent luminaires mounted on 35-foot steel standards which provide a considerably higher level of illumination in spite of the reduced number. With the completion of the program, virtually all overhead wiring has been removed from Talbot Street, the city's main business artery.

In reporting the event, the St. Thomas Times-Journal drew a parallel with an affair which occurred on March 25, 1911, and was reported in the Daily Times under the headline "Niagara Falls Is Turned Loose In The Thoroughfares Of St. Thomas."

"Mr. Beck pressed the button," read the report in the flamboyant journalism of the day, "which released the pent-up energy of the mightiest cataract of water in the world and instantly a miracle happened."

"Bright, twinkling lines of light shot up the tower of the hall, mottoes of welcome blazed out in letters of fire, the entire length of Talbot Street emerged from comparative darkness into brilliant illumination and a veritable scene of fairyland, while at the same moment long lines of bright light stretched like a fiery serpent along streets and avenues leading off into all parts of the city."

Fully 10,000 persons witnessed the extravaganza of "delivering of hydro-electric energy over a high tension transmission line unequalled for length anywhere in the universe."

## New Regional Office Will Employ Heat Pump

Construction of Ontario Hydro's new \$850,000 Western Regional Office at London has commenced. Located on a three-and-three-quarter acre site on the southern outskirts of London, the building will serve the regional staff now in leased quarters in the downtown section.

The new office will have a total floor area of over 38,000 square feet on three floors. A white glazed

brick, glass and exposed quartz aggregate concrete panelled exterior will add to the modern, functional design of the building.

Heating and cooling will be provided by heat pumps utilizing internal heat sources. The pre-cast, hollow core floor provides ducts for both power and communication systems.

The building is scheduled for completion by June, 1964.

## Short Annual Report Wins A.P.P.A. Award

The abbreviated version of Ontario Hydro's annual report for 1961 received a special award for excellence in the annual report contest sponsored by the American Public Power Association. All North American utilities having gross annual electric revenue of more than \$5,000,000 were eligible.

Presented at the Association's annual meeting earlier this year, at Cleveland, the award was accepted by James A. Blay, director of Public Relations for Ontario Hydro.

## Record Commission Service



Records are made to be broken, and among the latest to fall is one established by Sir Adam Beck, first Chairman of Ontario Hydro. The new record for length of service on the Commission belongs to the present Chairman, W. Ross Strike, who completed his 19th year in June, 1963. On August 24 he equalled Sir Adam's long standing record of Commission service.

In recognition of this achievement, fellow commissioners, senior management and representatives of the OMEA and AMEU gathered recently to tender their congratulations. From the left in the photograph are: Lt.-Col. A. A. Kennedy, Commissioner; George Gathercole, 1st Vice-Chairman; John McMechan, 1st Vice-President, OMEA; E. C. Dash, President, OMEA; Mr. Strike; R. W. Macaulay, Commissioner; John Torrance, President, AMEU; and D. P. Cliff, Commissioner.

## Ontario Hydro Personnel To Assist in Ghana

At the request of the Volta River Authority, Ontario Hydro's municipal service engineer, E. G. Bainbridge, has been chosen to act as a consumer service specialist in Ghana, West Africa. The authority is constructing a generating station at Akosombo together

with associated transmission and transformation facilities. Mr. Bainbridge will leave for Ghana September 27.

A request has also been received for an operations team to commission the new system and to assume responsibility for its initial operation and maintenance. The team would also be required to organize and administer a comprehensive training program to prepare Ghanaian staff to assume operation in the shortest possible time. Their services would not be required until late in 1964.

Frank J. Dobson of Ontario Hydro is chief executive of the Volta River Authority, and he has been in Ghana since the outset of the development. John Rogers, also of Ontario Hydro, is chief engineer of the big African hydro-electric project.

#### **Nuclear Plant Can Produce Power and Fresh Water**

After completing a two-month tour of 13 countries in the Far East, Middle East and Europe to determine the sales potential, J. L. Olsen, Canadian General Electric, reports a striking increase of interest in the Canadian heavy water reactor concept of nuclear power production. He said successful operation of Canada's first nuclear power plant at Rolphton, Ontario, and the progress being made at Douglas Point accounted for the growing awareness of Canadian advancement in the field.

As quoted in C.G.E. News, Mr. Olsen said: "Many governments and utilities that were not giving serious consideration to the Canadian type of plant in the fall of 1962, stated emphatically that they will include our heavy water design in any future choice of a nuclear power plant since they now regard us as a leading contender in this field."

He also pointed out that in some countries the shortage of fresh water was almost as serious a problem as the limitation of electric power. He said the Canadian heavy water reactors were very suitable for the dual role of producing electric power generation and desalting sea water.

#### **Historic Hydro Site**

A unique ceremony took place earlier this summer at Burks Falls where a plaque commemorating a power site which has contributed notably to the progress of the area since 1885 was unveiled. The power development was reconstructed in 1923 and acquired by Ontario Hydro when the Village of Burks Falls became a Hydro municipality in 1950. Retired in 1960, this development on the Magnetawan River is the first in the province to be so marked by Ontario Hydro.

In a brief address attending the unveiling ceremonies, Robert J. Boyer, 2nd vice-chairman, Ontario Hydro, observed that some of the older and smaller generating stations like Burks Falls G.S. had been retired from service and succeeded by plants of much larger capacity.

"As Burks Falls realized several years ago," he said, "we cannot afford to have isolated little pockets of power supply; thus, the Commission has followed



an unremitting and progressive policy of system amalgamation and integration."

Shown in the photograph at the unveiling ceremonies, left to right, are: Reeve Elmer Leggett, Armour Township; Reeve Stan Darling, Burks Falls, Allan Armstrong, chairman, Burks Falls P.U.C.; Councillor Grace Metcalfe; Robert J. Boyer and Allister Johnston, M.P.P. for Parry Sound.

#### **MUNICIPAL BRIEFS**

Revised rates introduced by Toronto Township Hydro, September 1, have some interesting features. Customers with electric water heaters are being offered a 500 kilowatt-hour preferred rate block, to apply after two blocks totalling 250 kilowatt-hours, with the choice of paying .7 cents per kilowatt-hour for non-controlled units or .4 cents for controlled units. Customers on flat rate may retain this status, but no new flat rate contracts will be issued after the first of September. Customers will signify their choice of rates on a business reply card, mailed to each customer, which will also provide a more complete list of electric water heaters on the system, making it possible to assure satisfactory performance and service.

In addition, all rates charged for electrical energy will be net—gross rates (net rate plus 10 per cent) will only apply after the normal discount period. The utility is making this change on the grounds that, in quoting net rates, the bill more truly expresses the cost of the product and is in keeping with billing procedures in other lines of endeavour.

At the request of the Hydro commission, the City of Welland has agreed to proclaim the week of September 23 "Hydro Week". The utility has planned special displays and other events to mark its 50th anniversary.

Riverside P.U.C. has recently purchased a ladder truck and a line truck equipped with an aerial basket and post-hole digger. Both vehicles are equipped with two-way radios linked with the police and fire departments as well as the P.U.C. office.

Five Medallion electrically heated model homes have been built in White Oaks Village in Toronto Township. They are the forerunners of what ultimately

will be a community of 140 all-electric homes in the \$17,300 - \$19,900 price range.

**Village of Belmont** in Western Region has entered into a cost contract with Ontario Hydro, and the newly formed municipal utility commenced operations July 1st.

**The Town of Burlington**, in co-operation with the Board of Education and the P.U.C., is exploring the possibilities of effecting economies by tendering for insurance protection directly with insuring companies instead of through insurance brokers, as at present.

**Lindsay Hydro** has approved underground wiring for a new subdivision. The builder will be required to pay \$50 per lot for this service unless the homes are all-electric, in which case the charge would not apply.

**Speaking** recently before the local Kiwanis Club, Henry Little, Brockville P.U.C. manager, cited his own all-electric home as an example of the good value electricity represents. He said that for 70 cents a day he supplies himself and his family with heating, lighting, cooking, cleaning, drying, ventilation and home entertainment. He thought this compared favorably with the dollar daily he spends in municipal taxes or the higher price he pays to operate his automobile.

**One of the largest** apartment developments in Metropolitan Toronto is proposed for North York. Planned by Millmink Developments Ltd., the project would consist of 15 buildings ranging from 11 to 18 storeys, with a total of 2,768 dwelling units. Assuming an occupancy of 2.4 persons per unit, the development would represent a population of more than 6,600. Electrical distribution would be underground.

**Mitchell P.U.C.** has called tenders for a new office and service centre which will provide space for a garage, workshop, stores, boardroom, display area and general offices. A heat pump will supply year-round weather conditioning.

**Ontario Hydro** estimates that more than 19,000 refrigerator and freezer sales can be directly attributed to the recent special promotion carried out in co-operation with the municipal utilities and their allies in the electrical industry. Purchasers of these units qualified for a free electric hair dryer.

**Four utilities** in the 60,000 man-hours and above classification had no lost time accidents in 1962. They were East York, Chatham, North Bay and Owen Sound.

**A special committee** of the board of directors of the Canadian Electrical Association has been appointed to examine the question of proportionate representation on the board of directors and municipal electrical utility representation.

**Bowmanville P.U.C.** now serves 25 customers with all-electric homes. There are 50 in the Bowmanville area as well as two schools, three churches, three office buildings, a drug store and an auction sales

arena that are all-electrically heated.

**Listowel Hydro** plans to purchase a fully-articulated insulated aerial bucket with a 19-foot boom and attachment for a post-hole digger. Cost will be about \$16,000.

**Electrical appliances** supplied high schools by Carleton Place P.U.C. are put up for auction when replaced. The appliances, marked with an "opening price", are displayed in the P.U.C. showroom, where the public is invited to inspect them and place bids. Each higher offering is marked on the appliance and it goes to the highest bidder over a period of a month or so.

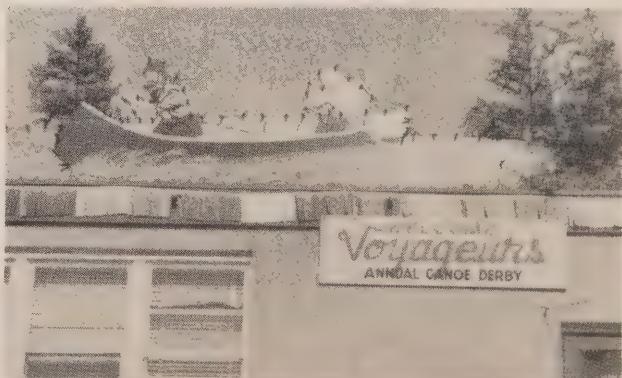
**Woodstock P.U.C.** has approved the addition of a sales promotion officer to the staff. He is G. E. Power, formerly employed by Chatham Hydro.

**Personalities** in the news include *Frank Jannaway*, chief engineer and assistant manager of St. Catharines P.U.C., who has been appointed general manager of York Township Hydro. He replaces *D. A. MacGillivray* who, for health reasons, reverts to assistant manager, Administration. *Thomas L. Sullivan*, chairman of Renfrew H.E.C., died recently in Ottawa. He became a member of the Hydro commission in 1962 and a year later was appointed chairman.

*Roy Beith*, who has been general manager of the Electrical Contractors Association of Ontario for the past two years, has resigned to accept a position with Miller Equipment Company. Mr. Beith is a former manager of the Electrical Utilities Safety Association. *John M. Low*, chairman of Uxbridge P.U.C. for the past eight years, and commissioner *Leslie Siegrist* have resigned from the Uxbridge commission. *Stanley Beach* and *Charles Johnson* were named to replace them at a special meeting of council. Fellow commissioners recently honored *L. A. Waddell* of Lindsay Hydro who has completed 15 consecutive years on the utility executive. ■

## Hydro Welcomes Voyageurs

Quebec has its carnival and Toronto its C.N.E., but in Northwestern Ontario the big event is the International Canoe Derby—which accounts for the unusual scene adorning the Atikokan Hydro office. Atikokan was the start of this year's event with the half-way mark being Ely, Minnesota. A challenge



to the skill and endurance of the paddlers, the race covers some of the finest canoe country in North America and offers prizes totalling \$2,500.

#### Primary Energy Supplied in July

Primary energy provided by Ontario Hydro in July totalled 2.83 billion kilowatt-hours, an increase of 3.7 per cent over the same month a year ago.

For the first seven months of 1963 the total is 21.5 billion kilowatt-hours, up 4.4 per cent over the same period last year.

Adjusted for seasonal influences, primary energy demand in July was 3.1 billion kilowatt-hours, 0.98 per cent higher than the previous month.

The seasonally adjusted total for July represents 37.2 billion kilowatt-hours at annual rates. This is 267.1 per cent of the energy demand in 1949.

#### Lord Mayor Visits Niagara



The Lord Mayor of London, Alderman Sir Ralph Perring, fulfilled a 30-year-old promise when he visited Niagara Falls during a recent goodwill tour of Canada. On his arrival, he told Mayor Franklin J. Miller of Niagara Falls that he had promised Lady Perring he would one day bring her to Niagara for a second honeymoon.

Among the highlights of his Niagara tour was a stop at the floral clock and the inspection of Ontario Hydro's Sir Adam Beck - Niagara Generating Station No. 2. He is shown in the photograph, third from left, being greeted by Ontario Hydro Chairman W. Ross Strike at the reception centre. They are flanked by Mayor Miller of Niagara Falls, left, and Charles Daley, chairman of the Niagara Parks Commission.

#### Ontario Hydro Proposes Electrical Museum

Ontario Hydro recently approved a two-year budget within which historic electrical equipment for display purposes or for use in a proposed electrical museum will be acquired. If developed, the museum project would form part of Hydro's contribution to Canada's Centennial celebrations in 1967.

The budget provides money for acquiring and refurbishing equipment, for research and for other expenses. Sites for the proposed museum are now

under study by a planning committee headed by H. J. Sissons, assistant general manager—Services.

Further details of the project will be carried in a subsequent issue of *Hydro News*.

#### Advertising Manager Appointed



C. W. Palmateer

C. W. (Bill) Palmateer has been named manager of Ontario Hydro's Advertising and Marketing Services Department. He succeeds A. V. Crate, who resigned to accept an executive position with the British Mortgage and Trust Company.

Mr. Palmateer came to Hydro after 25 years with Thor Industries Limited, manufacturers of electrical appliances and commercial electrical equipment. He was executive vice-president of the company prior to joining Hydro as senior supervisor, Advertising and Marketing Services, in November, 1962.

#### LETTERS to the editor

Commenting on the new storage cell principle employed to heat the Highlander Apartments in Port Credit with off-peak electric power (*Hydro News*, June, 1963), E. R. Lawler of Toronto makes some interesting observations. Mr. Lawler's utility experience dates back to 1905 when he was with the Toronto Electric Light Company. He later served as a district engineer for Ontario Hydro in Southwestern Ontario and was manager of Toronto Region before retirement.

Mr. Lawler's keen memory recalls that about 1920, J. G. Jackson, then manager of Chatham Hydro, undertook to design an off-peak heat storage system for buildings previously supplied by the "C.W. & L.E." Electric Railroad.

He goes on to say:

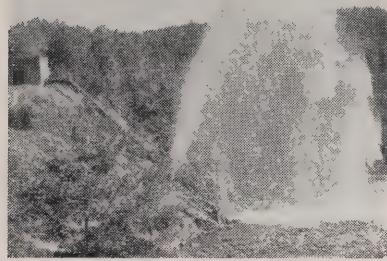
"The system employed a forty gallon metal drum filled with sand in which the heater element was installed. The plan included a special power feed so that Chatham Hydro could be sure the heaters were operating off the peak.

"The project was halted by a telephone call to Mr. Jackson from the chief engineer of Ontario Hydro, whose policy at the time was to prohibit the electric heating of buildings for fear it would consume all the potential water power of the province. . . . Some technical difficulty was also encountered with the off-peak heaters, but there is no doubt that the outstanding inventive skill of the originator would have successfully solved the problem.

"So Chatham lost out in its bid to be first to supply off peak power for heating buildings."

Mr. Lawler concludes his remarks with the observation that Chatham must get credit for leading in the field of underground distribution in proportion to population.

# OFF THE WIRES



They've been whooping it up in Cobalt this summer on the occasion of the town's silver jubilee—and that's as it should be, considering the role this precious metal has played in the community's history. Old-timers able to raise a grubstake have been returning from all over the country to the site of the fabulous silver discoveries, made at the turn of the century, to revive old memories and recount by-gone events which might have made them rich.

And instead of the virtual ghost town to which Cobalt was relegated for many years with the depletion of the mines, they found a community on the upsurge—with silver again to the fore. Improved mining methods, better silver prices and new discoveries have combined to restore much of the town's former prosperity.

But if there have been innovations, one of the highlights of the anniversary celebrations remained familiar to veterans of the first silver bonanza. "Old Faithful", the unique Ragged Chute hydraulic air compressor plant 10 miles southeast of the town, has attracted many visitors, and the spectacular 300-foot blow-offs, which occur periodically when too much pressure builds up, have been especially illuminated for the occasion.

One of the few remaining installations of its kind in the world, the plant was built in 1910 to supply compressed air to the mines in the district. Acquired by Ontario Hydro in 1944, it continues to operate.

Another feature of the recent celebrations with a Hydro flavor

is the new mining museum. Containing some of the finest silver specimens in the world, the museum building is a former Hydro office which was sold to Cobalt at a nominal fee for this purpose.

Persevering readers of Hydro News will recall an article entitled "The Two Gentlemen of Falls Bay", which appeared in February, 1957, describing the work being carried out by the two largest hydraulic pipeline dredges in the world. In stripping the overburden from the giant Caland Ore Company iron development near Atikokan, these two "gentlemen", each equipped with 10,000 horsepower electric motors and aided by booster stations along the pipeline, excavated more material than was involved in the construction of the Panama Canal.

It was with considerable interest, therefore, that we noticed an item in the Fort William Times-Journal concerning the fate of the two behemoths. It seems that the superstructure and machinery of the Joseph L. Block is being shipped to Montreal where it will be installed in the hull of its twin—the Clarence B. Randall, to aid in the preparation of the site for the World's Fair. Machinery from the Randall had previously been removed and is at work at Long Beach, California, in a new hull.

Disappearance of the last vestiges of dredging activity marks the close of a romantic era in the development of the Northwest which cost upwards of \$50,000,000 over a period of about eight years.

In view of the recent interest which has been evidenced in the matter of emblems, and how best to portray all that is Hydro through the highly confined



medium of a symbol, these two designs, recently adopted by the Hydro systems of Niagara Falls and Toronto Township, are worth studying. Almost everyone associates the great cataracts with the City of Niagara Falls, and these have been incorporated with commendable simplicity in the Hydro insignia.

More involved, the Toronto Township Hydro insignia, with its futuristic symbol, represents a fresh approach in an effort to capture the progressive attitude of the utility itself. Both reflect a good deal of thought and appear to accomplish the purpose for which they were designed.

Sioux Lookout Hydro now boasts one of the finest all-electric motels in the land as one of its customers. Among the modern, up-to-the-minute features of the new "Welcome Motel" are indirect lighting, car heater plugs, television, electric weather-conditioning and all the rest of the comforts required by the most demanding northern traveler. A project such as this, of course, demands a plentiful supply of water and this was obtained by the most effective method yet discovered—a willow "devining rod" wielded by a talented local citizen named Henry Lecuyer.

Another instance of the past meeting the future occurred in the Niagara area recently with less satisfactory results. Dozens of windows in the DeCew Generating Station, oldest in the Hydro system, were shattered by a jet breaking the sound barrier. ■



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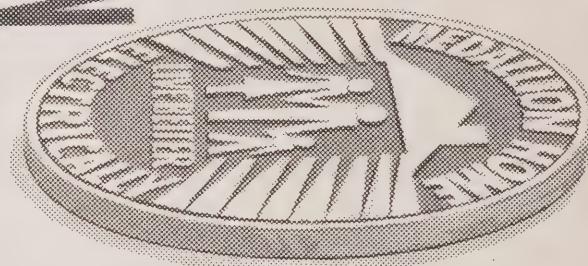
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This is one of 17 advertisements prepared for the municipal electrical utilities to assist in their local advertising programs. They feature a uniformity of layout designed to establish continuity and a "family" resemblance. Mats of stereos are available without cost from the Advertising and Marketing Services Department of Ontario Hydro.

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ONTARIO

# HYDRO NEWS

OCTOBER, 1963

Overcoming corona was a problem in extra-high-voltage engineering. See page on





Few Dunnville personalities are better known around town than John Dawson, manager of the Public Utilities Commission. Shown here checking a street light control, John is using ingenuity and initiative to overcome problems peculiar to the smaller utilities. Further details of his methods commence on page 12.



This outsized key might not open very much but it symbolizes northern hospitality. Ontario Hydro Chairman W. Ross Strike is shown, right, accepting "key to Cochrane" from Mayor M. A. Palangio during annual meeting of the Northland Municipal Electric Association. Highlights of the annual district OMEA meetings commence on page 16.

OCTOBER, 1963

## ONTARIO HYDRO NEWS

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### THE COVER

Both audible and visible under certain conditions, corona is seldom captured so vividly on film as in our front cover photo. Phenomenon was photographed on a dark, drizzly night near Coldwater. Line was being operated 600,000 volts — abnormally high for size of conductor in use. How corona was overcomes and other details of EHV project commences on opposite page.

HYDRO NEWS, VOL. 50, NO. 10

Editor: Don G. Wright.

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*Lab work and slide rules play a major role in Ontario Hydro's 500,000-volt super highway of power.*

# EXTRA-HIGH-VOLTAGE ENGINEERING

by Paul Chisholm



*Electrical engineer Manfred Stelter tests coronaphone—an instrument developed by Ontario Hydro to pinpoint sources of corona-induced radio interference.*

**I**N the fantastic world of science as portrayed by the fine new research facilities at Ontario Hydro's A. W. Manby Service Centre, odd-shaped blocks of metal—each small enough to fit into the palm of the hand—become buildings, fences, silos and vehicles when placed beneath miniature but live transmission lines. And when the whole is immersed in a tank of distilled water, it doesn't

make much sense to anyone but the engineers and scientists responsible for the design and pre-construction phases of Canada's first extra-high-voltage transmission line to be operated at 500,000 volts.

It adds up to the fact that there is a great deal more involved in designing a super highway of power than meets the eye. Aware that many electrical and engineering problems were

peculiar to the transmission of power at extra high voltages, many facets of the complex Ontario Hydro organization were devoted to extensive research, design and testing years before the first EHV tower was erected.

Among the most important projects associated with the preliminary work was the construction of a mile-long EHV test line at Coldwater where, for the first time, it became possible to observe the performance of "bundle" conductors under operating conditions. Bundle conductors substitute a number of small conductors for a single large conductor in each phase of the line.

Much of the experimental data obtained at Coldwater and in associated work at the research laboratories has been incorporated into the first section of line, spanning 230 miles between Pinard T.S. and Sudbury, which was energized for the first time earlier this month.

Operating initially at 230,000 volts, the line will be stepped up to its ultimate capacity by 1965. Further data will be required for the particular conditions to be encountered in the final stage of the line, now under construction, to Kleinburg, north of Toronto, and for other EHV projects in the future.

Why this concern with transmitting power at voltages so much higher than the top 230,000 volts previously employed on the Ontario Hydro network? It's a matter of economics. Where long distances are involved and large blocks of power are to be transmitted, high voltages are far more efficient. Line losses are reduced and less land and physical plant are required to carry the power.

Faced with the need to develop EHV transmission in order to proceed with the present power projects in Northeastern Ontario, the Commission chose to invest in its own research rather than to adapt European EHV system designs to Ontario requirements. With energy demands doubling about every 10 years there was no time to wait for these countries to arrive at optimum design.

The decision has resulted in a sub-

stantial saving in the first section of the line and benefits will accrue as the emphasis continues on EHV transmission. Research findings made it possible to reduce conductor size in the first section by 10 per cent—a very important saving in itself. Diameter selected is 10 per cent smaller than conductors in use in Sweden, and 15 per cent smaller than those used in Germany.

All of which brings us back to the model buildings, fences and vehicles in the research laboratory. These tests were to determine the severity and possible danger of induced currents in the real objects when in close proximity to EHV lines.

The precisely scaled models can be arranged at various distances from a miniature, three-phase, 60-cycle conductor. When the entire project is immersed in an electrolytic tank of distilled water, it becomes possible to measure current and voltage induced in the models while the test line voltage remains relatively low.

It has been determined that while some current is induced, it does not constitute a hazard. Further electrolytic tank experiments are now underway to determine safe clearances for establishing gasoline storage facilities or pumps near EHV lines.

A more serious problem associated with power transmission at very high voltages is corona—the partial electrical breakdown of air (ionization)—which, if not controlled, causes excessive power loss and radio interference. Corona is clearly audible, and is visible at night as a luminous glow. The bundle conductor design adopted, in which each phase employs four small-diameter sub-conductors, minimizes corona.

For close corona observation, and to permit photography of the phenomenon, an accurate 1:40 scale model of an EHV transmission line section was set up in a darkened room at the Research Centre. The model also enables research personnel to determine tower proximity effects on conductors. This had not been possible on the Coldwater test line because, for economic reasons, wood structures were used instead of metal.

In successive tests with gradually changing voltage, the corona inception voltage was determined both in mid-span and near the towers.

An example of the problems overcome in this fashion was the difficulty which arose in attaining corona-free operation in specific locations, such as line transpositions. For test purposes, the model line was altered to conform exactly with these locations and voltages were applied proportional to actual operating voltage. Oversized conductors incorporated in the right places proved to be the answer.

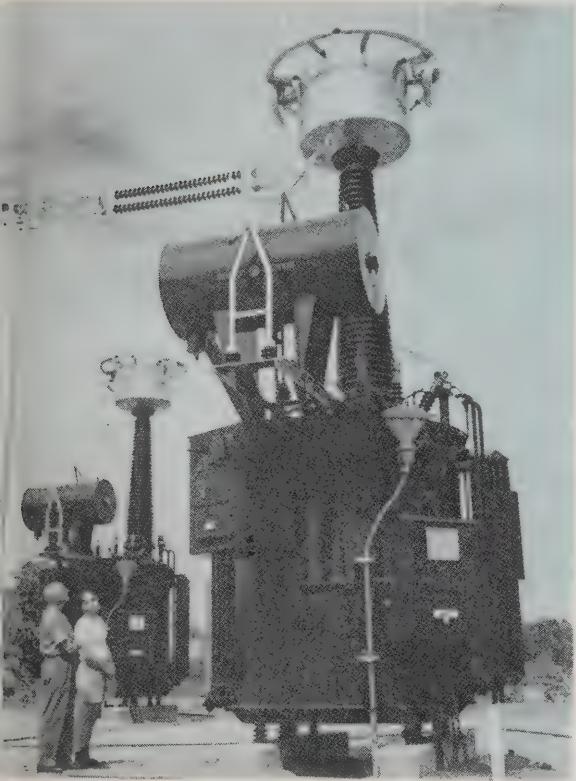
In an adjoining laboratory, a series of more complex tests, involving steel balls sprinkled with light sand to induce corona, a test conductor and a cylindrical cage—led to the establishment of standards for the manufacture of corona-free line hardware. This includes streamlined clamps of an original design by which the conductors are suspended from the insulators and "spacer-dampers" which combine the functions of maintaining the correct distance between the four bundle conductors, at the same time preventing vibration caused by wind.

Successfully tested at the Coldwater project before installation, the hardware eliminates the need for grading rings or corona shields except at terminal towers. Suitable clearance and attachments were included in the design of the EHV line to facilitate live-line maintenance.

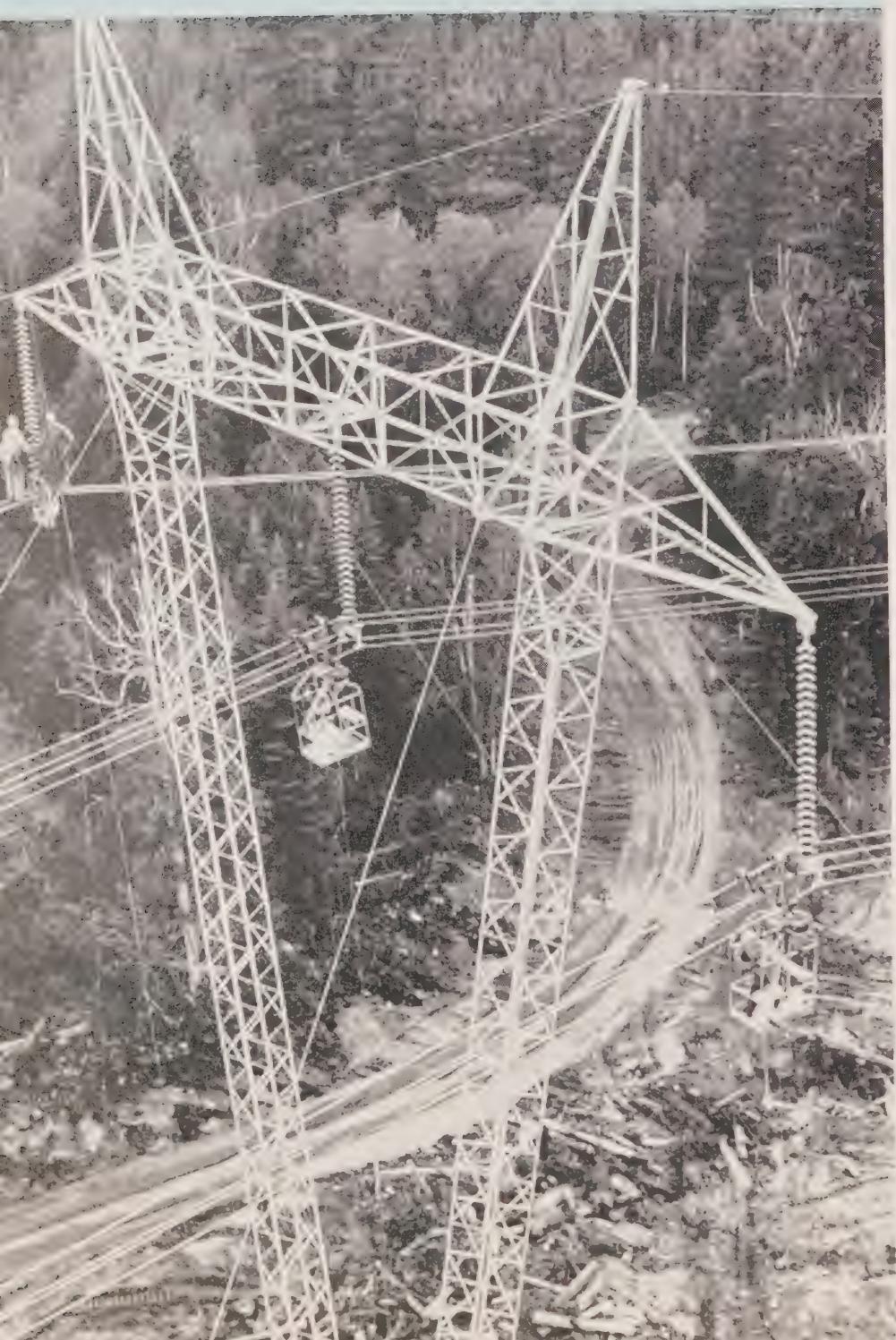
Among the interesting off-shoots of the Commission's EHV research has been the development of a "coronaphone"—a saucer-shaped instrument 24 inches in diameter, which can pinpoint sources of corona-induced radio interference within a matter of inches. The instrument eliminates the need for tedious night-time photography to identify corona sources and has other potential uses such as the locating of faulty insulation in low-voltage apparatus.

To some extent the very sensitivity of the coronaphone limits its usefulness. During the summer months, some locations, corona or transformer noise is drowned out in a bedlam of insect sounds and bird calls.

Laboratory and field tests overcame most problems before first EHV tower was erected. Gerry Fitzgerald of Electrical Testing Section, right, conducts experiment which helped set standards for corona-free hardware. He is shown, bottom photo, with scale model of EHV line section used in several tests. Photo, below, shows two of three single-phase high-voltage test transformers used in connection with Ontario Hydro's Coldwater project.



# EHV CONSTRUCTION EQUALLY CHALLENGING



**N**O less challenging than the design and research associated with Ontario Hydro's extra-high-voltage transmission line, is the actual construction. One year before the first towers were positioned, Hydro's Construction Division began experiments — some in conjunction with the Research Division — on a one-mile trial line at Agincourt. Among the many innovations and new methods being used in EHV line construction:

- Because the slightest damage to conductors greatly increases corona, line stringing is being carried out under tension with the aid of special puller and tensioning machines to keep the lines clear of the ground and from trees. A complete sequence involving suitable equipment and methods for the tension stringing of the bundles of four conductors simultaneously was developed.

- The above included the designs of travellers (pulley block sets) to minimize damage to conductors when stringing. Lined with urethane plastic, the travellers showed no sign of wear after 230 miles of stringing under the most severe construction conditions. Regular suppliers of this kind of hardware said it couldn't be done.

- Sectional, 80-foot gin poles fabricated from the same extruded sections as the aluminum towers, which cost half the price of the conventional tubular type, were used for erecting towers.

- Canadian designed V-shaped aluminum towers, one third the weight of the comparable steel product, were used at some locations and transported by helicopter where normal access was impossible.

- Hydro-developed motorized cable cars were slung from the line to enable crews to install spacer-dampers without constantly re-locating from the ground.

- A wide-tracked muskeg vehicle was designed to transport six-ton cable reels over rugged terrain. Vehicle incorporates reel handling device to minimize conductor damage during delivery.

*This drama being enacted high above northern terrain depicts several aspects of equipment and methods adopted by Ontario Hydro in construction of its first extra-high-voltage transmission line.*



THE pivotal point of Ontario Hydro's \$200,000,000 hydro-electric complex on the James Bay watershed is rapidly taking shape at Pinard, between Abitibi Canyon and Fraserdale, some 60 miles north of Cochrane.

From Pinard, collection and control point for four existing or committed plants on the Abitibi and Mattagami rivers, power will be fed southward at 500,000 volts by 1965 when power production reaches an economical level for transmission at extra-high-voltages. In the meantime, the line will be operated at 230,000 volts to Hanmer, on the outskirts of Sudbury and then to Essa, near Barrie.

Initial operation of the first phase of the transmission line to Sudbury commenced October 4.

By 1965, four transformers, now being built at Hamilton at a cost of almost \$1,000,000, will step up power to 500,000 volts. Each is rated at 200,000 kva.

But it is as a control centre that Pinard provides the greatest engineering challenge. From here, microwave relay will shortly assume control of Otter Rapids G.S. on the Abitibi, and Little Long on the Mattagami, while the Harmon and Kipling generating

stations will be added as they are brought into service. From the small control room consoles governing each plant, operators will be able to start up, bring on line, and load the plants 20 to 30 miles away.

Maintenance and equipment checks of all stations in this northeastern network will be carried out by travelling crews based at the Abitibi Canyon colony which was established in 1933 to accommodate operating personnel of the generating station.

To handle the influx of operators, engineers, and technicians required to operate the complex, the Abitibi colony is being doubled in size. Currently 33 new homes are well on their way to completion. New service facilities and office space are being provided in buildings at the top of the powerhouse dam replacing present quarters some 200 feet down in the heart of the generating station.

Improvements include the relocation and enlargement of the water treatment plant and construction of a sewage lagoon, enlargement of the colony's store, and an extensive landscaping project designed to make the colony a more pleasant place to live and work.

But, perhaps, the most eagerly

waited improvement is the construction of a road from Smooth Rock Falls, on No. 11 Highway, recently announced by the Minister of Highways. The colony's only surface link with the rest of the province has been over the Ontario Northland Railway line from Cochrane to Moosonee.

A road is also nearing completion from the colony to Little Long and Harmon for use of staff engaged in periodic checks and maintenance of the remotely controlled equipment. Travel to Otter Rapids is by boat in summer and by rail in winter.

When the present phase of the program is complete, by 1966, Pinard will be routing some 560,000 kilowatts of power southward. In addition, 208,100 kilowatts of power produced at Abitibi Canyon is carried over conventional lines to the mines, homes and industries of Northeastern Ontario.

*Rapidly taking shape in a wilderness clearing, Pinard Transformer Station is northern terminus of EHV line. It is also collection point and control centre for plants on Abitibi and Mattagami rivers.*

# NORTHERN CONTROL CENTRE

# MORE POWER FROM THE NORTH

**A**T the touch of a button, water roared down the penstock, caught up the turbine in its swirl, and within seconds power was surging from the Otter Rapids Generating Station into a network of transmission lines connecting cities, farms and industry far to the south.

The official opening ceremonies highlighted five years of effort by Ontario Hydro in bringing the first three units into service at this station, on the Abitibi River, some 90

miles north of Cochrane. A fourth unit was scheduled for service within a few weeks, bringing the capacity of this \$32,600,000 development to 174,800 kilowatts.

On hand for the opening ceremonies in this remote area of Northeastern Ontario were W. Ross Strike, chairman of Ontario Hydro; J. M. Hambley, general manager; and Rene Brunelle, a commissioner of the Ontario Northland Railways, who jointly pushed the button activating

the unit. Honored guests included representatives of the OMEA, the AMEU, and business, labor, municipal and provincial officials.

The symbolic opening was a prelude to a series of achievements which will provide an additional 165,000 kilowatts from Northeastern developments by mid-November. This will be derived from the fourth unit at Otter Rapids and from the first two units at Little Long G.S. on the Mattagami River. ■



Ontario Hydro Chairman W. Ross Strike, Rene Brunelle, Ontario Northland Railways commissioner and J. M. Hambley, Hydro's general manager, join hands to set a generator whirring at Otter Rapids official opening. In top photo, Mr. Strike compares hard hats with Rt. Rev. N. R. Clarke, Suffragan Bishop of Moosonee, prior to ceremonies. Four units are now in service at Otter Rapids plant, below.





A RECORD turnout of some 500 delegates overflowed the fourth annual meeting and industry conference of the Electric Heating Association of Ontario, held in Seaway Towers, Toronto, late in September.

During his welcoming address at the one-day conference, Ray Pfaff, EHA president and manager of St. Catharines Public Utilities Commission, said that membership had doubled during the past year. EHA started with 27 members in 1959, grew to 205 members in 1960, and to 431 members in 1961. Last year membership totalled 878.

"I am now pleased to announce that the Association of Municipal Electrical Utilities of Ontario has taken out a blanket membership with EHA on behalf of all municipal electrical utilities in the province, which will increase membership by some 300," he said. "This is truly a history-making event which gives the electric heating industry a solid front in carrying forward the Triple Seal of Quality program aimed at ensuring complete customer satisfaction with electric heating."

Outlining EHA achievements dur-

ing the past year, Mr. Pfaff said that the association had: initiated the fire test of brick veneer wood frame construction to Triple Seal standards which was carried out by the National Research Council of Canada; developed simplified heat loss calculations; prepared Triple Seal electric heating standards for apartment buildings; developed the guarantee of maximum annual operating costs for electrically heated homes; planned the industry co-operative display of electric heating at the National Home Show; distributed a 20-page electric heating supplement to some 11,000 key people in Ontario; and appointed local representatives to handle all EHA business at a local level.

#### PLANS FOR FUTURE

Ontario Hydro's plans for promoting electric heating in 1964 and 1965 were outlined for EHA delegates by G. M. McHenry, manager of Residential Sales.

The building industry—the speculative builder, the volume builder of mass-produced homes, and the land developer—will receive most of Hy-

dro's attention next year, he said. As well, mortgage-lending and financial institutions will be encouraged to take a more favorable attitude toward electrically heated homes.

"Since the greater proportion of homes built in the regions where we have high penetration of the market are custom-built homes, and the greater proportion of those built in the other regions are speculative, mass-produced homes, it seems reasonable to conclude that we are doing a better job of selling the general public and home purchasers in particular, than we are the building industry itself," he said.

"The acceptance of electric heating by builders has increased considerably over the last year, but it is apparent that the large-scale builder is some distance from employing this form of heating as an optional choice for the buyer," he said. "With our reduced rates, reductions in equipment prices, and with the builders' increasing recognition of customer acceptance of electric heating, we are now in a position to succeed in this section of the market. We already have all-electric subdivisions in Cen-

# 'Our present standard of living calls for a better standard'



*Electric Heating Association executive for 1963-64, left to right, front row, are W. L. Scott, manager; F. H. Rogers, vice-president; Ray Pfaff, president; R. N. Leadbeater, secretary-treasurer. Back row: William Le Gallais, director; G. E. Marshall, past president; and directors I. S. Widdifield, A. B. Snyder, R. C. Dickinson, K. N. Rumble, and G. M. McHenry.*

tral and Eastern Regions. It is important that we soon get such a breakthrough in other regions and districts where mass housing takes place."

## CONVERSIONS

Mr. McHenry explained that a concerted promotional program for converting existing homes to electric heating is planned for 1965. Studies are now underway by Hydro's Research, Consumer Service and Sales Divisions to evaluate the use of heat pumps, thermal storage systems, warm air and hydronic heating systems, as well as the more popular direct resistance type of electric heating equipment, for conversion purposes. Based on these studies, recommendations of techniques to use in developing the conversion market will be made, and technical and promotional aids for the program will be developed.

Other activities planned by Ontario Hydro for 1964 include:

—increased emphasis on local administration of the Triple Seal program, so that examination of homes during construction for compliance with recommended EHA standards

can be presented as a sales service, rather than as an inspection;

—further revisions to EHA standards to keep pace with continuing development of new techniques and systems;

—development of a technical training program on electric heating to acquaint plumbing and heating contractors with the difference between application of electricity and other fuels for heating homes.

## HYDRO ADVERTISING

An aggressive consumer advertising program designed to create complete public acceptance of electric heating will be continued by Ontario Hydro during 1964, W. F. Palmateer, manager of Hydro's Advertising and Marketing Services, told delegates.

"The importance of gaining fast recognition and consumer action for electric heating cannot be over-emphasized; every home which is gained is not only a load gained for this year, but for a long period of time. Similarly, every home which is lost today to either gas or oil is lost for a long time," he said.

Ontario Hydro advertising in 1964 will emphasize that electric heat is

inexpensive, and will also stress other benefits, through testimonial-type advertisements.

## COMPLETE INDOOR COMFORT

The marketing philosophy of the National Warm Air Heating and Air Conditioning Association—complete indoor comfort—was outlined for EHA members by N. K. Smith, assistant to the president, Honeywell Controls Limited.

In the new home market, the heating contractor and the builder must co-operate to turn prospects into customers by offering them something better and more attractive than they have yet experienced—the complete indoor comfort which is the theme of the N.W.A. marketing program, Mr. Smith explained.

"In some parts of Canada there are marketing contests between gas oil and electricity as to which is more likely to offer comfort. With all due respect to the people of these industries, the selection of fuel is primarily a matter of heat source, and whether one particular choice may be more readily available, or more desirable for various reasons, we are still talking about the source of BTUs. Yo

# heating. If you have it, the rest is only a matter of time'



Insulation practices was topic of this panel at EHA annual meeting. Left to right panelists are: J. E. Kingston, Central Mortgage and Housing; J. H. Graham, Domtar Construction Materials; W. L. Scott, Ontario Hydro; R. J. Hamilton, Dow Chemical; W. J. Crocker, Canadian Johns Manville; and W. H. Chadwick, Ontario Hydro.

fuel industry cannot offer simply heat to attract either the home buyer or the builder. The 'something extra' must be complete indoor comfort."

## CENTRAL SYSTEMS

"The key to opening up new electric heating markets will be central systems. The new markets to which central systems—both central electric furnaces and heat pumps—will give us access are primarily the large replacement market and the special application home market," I. D. Campbell said during the EHA conference.

Mr. Campbell is sales manager, Heating and Air Conditioning Division, Canadian Coleman Company.

"A central electric system should be used in all applications that cannot be comfort-conditioned to the needs of the buyer by the traditional and popular methods of electric heating," he said. "This includes a significant and major percentage of all possible home heating applications."

Heat pumps should be considered for economic reasons as well. A heat pump system usually has a lower initial cost than separate heating and cooling systems in the same building,

regardless of the energy source for heating. Annual operating costs for the heating cycle are less than the costs of straight resistance-type electric heating, and operating costs for the summer cycle are exactly the same as for standard air conditioning of equivalent capacity.

## ULTIMATE GOAL

As keynote speaker at the EHA industry luncheon, architect R. G. Cripps, of Weir, Cripps and Associates, reminded delegates that their ultimate goal was the betterment of man's world.

"Some of my best friends are engineers, and at times I'm perturbed that they can be as obtuse and as far off the beam as any architect," he said. "Give them a fist-full of BTUs, or a bag-full of kilowatts to mess around with, and they forget entirely that their business is keeping man comfortable, just as the architect, given a pencil, a satchel of new materials and a bow tie, sometimes forgets that he is not really designing buildings or drawing pretty pictures, but housing that forgotten tyke—man."

Control of heat has had a slow development, but now—with electric

heating—man has rid his house entirely of the primary heat source, he said.

"And even electric heating, obviously the most convenient form from the layman's standpoint, leaves something to be desired. Many fixtures look like flimsy hot water convectors to me. Sure, in 30 years we've come from magnificently huge and ugly cast iron radiators to small baseboard units," he said. "But let's have the next steps fast, toward complete visual suppression, leaving us with nothing but that delightful glow of controlled temperature to bask in....

"In our quest for a better environment through better heating, it seems to me that we must not lose sight of the fact that fundamentally man progresses, in the long run, toward the easier and the better, and has always been willing to pay for it. Acceptance of the washing machine did not come because it was cheaper than the wash-tub any more than the automobile was accepted because it was cheaper than the horse.

"Our present standard of living calls for a better standard of heating. If you have it, the rest is only a matter of time," he concluded. ■

# WELLAND HYDRO CELEBRATES FIFTIETH ANNIVERSARY

*'Hydro Week' proclaims elect*

SELDOM has the story of electrical progress been told more effectively than it was by the Hydro-Electric Commission of Welland on the occasion of its 50th anniversary.

Lending its enthusiastic support, the City proclaimed September 20 to 27 "Hydro Week" which was climaxed by a joint Chamber of Commerce and Welland Hydro dinner meeting. Focal point of the week-long activities was the utility's service centre where commissioners, management and employees joined in a unique open house at which virtually every aspect of the utility's operations was explained and demonstrated.

Displays of mobile equipment, including the latest type of aerial bucket in action, a graphic explanation of the lineman's role in maintaining vital electrical supply networks, and a compact historical review of meters illustrated with working models of instruments dating back to the early 1880s were among the many attractions. Designed to explain Hydro's role in the life of the community, the open house also included animated models of the local distribution system and such crowd-pleasing electronic developments as closed-circuit television and

ultra-sonic cleaning. Hot dogs and pizza ready for serving after about 3 and one-half seconds in the electronic oven drew gasps from the audience.

Indicative of the utility's success in telling its story was this comment from a Welland housewife:

"I never for a moment realized the hard work and technical know-how necessary to ensure that my lights, stove and other appliances work when I need them. It's reassuring to know that all these competent people are behind me whenever I throw a switch."

And there was the teenager's comment when he saw the display designed to impress young people with the stupidity and dangers of vandalism in connection with utility property. He said: "Next time one of the boys suggests taking a pot shot at an insulator or street light I'll be able to give him a real argument."

As guest speaker at the joint meeting with the Chamber of Commerce, Ontario Hydro Chairman W. Ross Strike stressed the role the chamber had played more than 50 years ago in impressing the provincial government with the need for a co-operative, publicly owned electrical system in Ontario.

Mr. Strike also outlined the growth of the province-wide Hydro organization, and he explained how, with the assistance of the associated municipal utilities, it had continued in the forefront of provincial development. The speaker cited economies of operation that would not have been possible on a "go-it-alone" basis, such as the ability of the system to absorb the output of very large and efficient generating units.

As a continuing reminder to its customers of the part Hydro plays in their day-to-day activities, Welland Hydro is also issuing a booklet recounting growth and development over the last half century. Prominently featured in the attractive illustrated booklet is an explanation of the need for promotion and the direct relationship which exists between the per capita use of electricity and the cost of supply.

Summing up Hydro Week in Welland, commission Chairman Cecile N. Swayze observed: "It was a co-operative effort right down the line, with every member of the commission and staff pulling his weight. If it has resulted in a better understanding of Hydro by the people of Welland, has been very worthwhile."

ress over half a century

# HYDRO'S GOLDEN JUBILEE

*from the Welland Tribune*



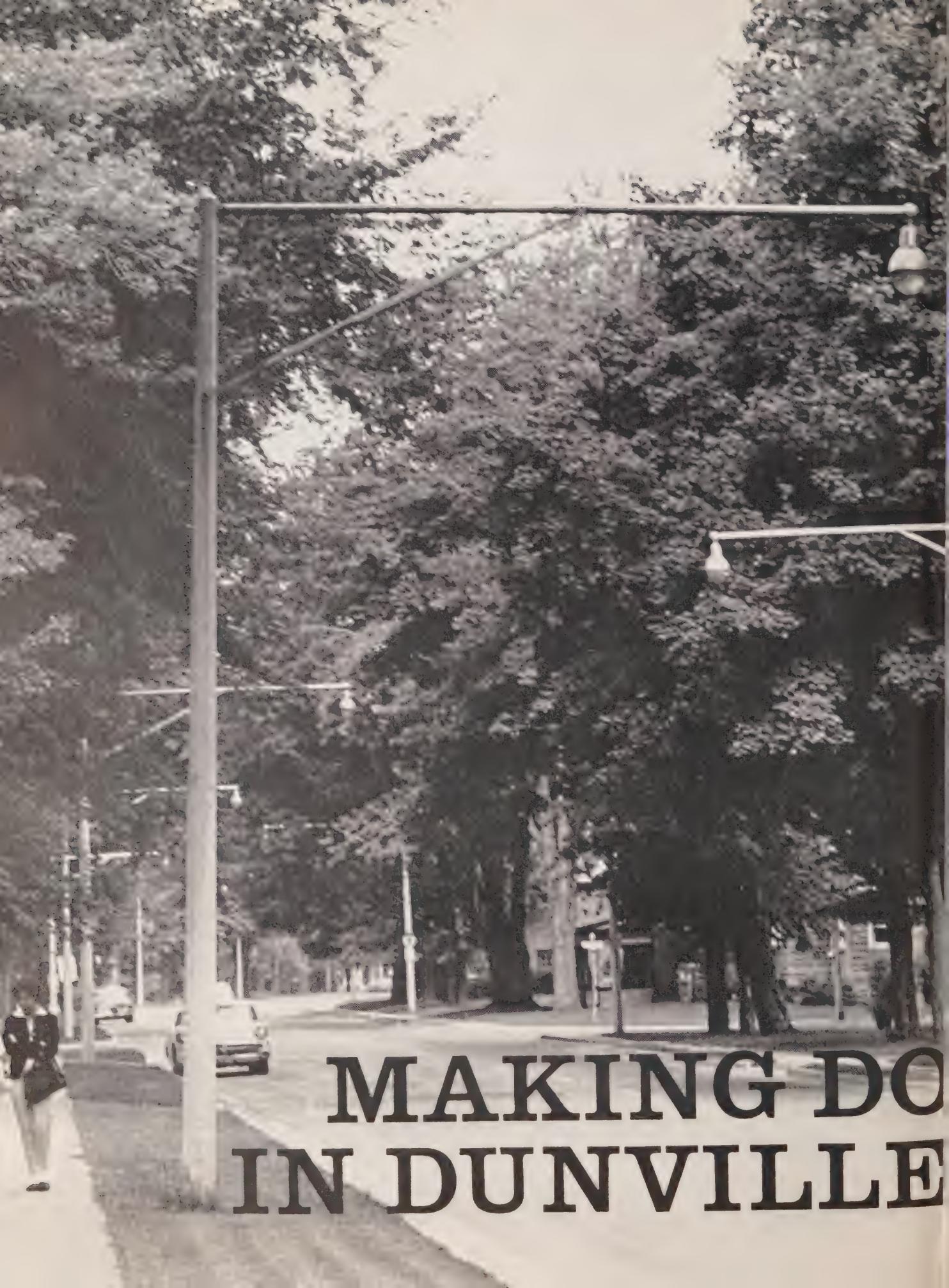
These examples of damaged utility equipment are viewed by, left to right, J. R. McCullough, manager, Niagara Region; C. N. Swayze, chairman, Welland Hydro; and W. Ross Strike, chairman of Ontario Hydro. Designed to help prevent vandalism, display was part of Welland commission's open house during 50th anniversary "Hydro Week."

"We've come a long way electrically from the dozen, flickering carbon arc lights used in Welland's first street lighting installation from generated power in 1887. This week we have been looking back over the growth and development of the hydro electric system, with admiration for the early participants to whom a bulb dangling at the end of a cord was ultra-modern, and with equal appreciation for the efforts of all those who have administered the utility since it became linked to Ontario Hydro 50 years ago.

"Welland would never have come close to attaining the important position it holds as an industrial centre without adequate supplies of electrical energy. While some of the heaviest users of power are direct customers of Ontario Hydro, the city system has been gradually embracing industrial users in a tremendous growth program.

"It takes an imposing plant and skilled, capable personnel to supply nearly 11,000 users, including 106 industrial and 568 commercial customers, who depend on the Welland system.

"Hydro is one of those blessings of mankind that too often are taken for granted, and it has been good this week, during the observance of the 50th anniversary of the Welland commission, to pause and reflect on how much we owe the pioneers in Hydro and to acknowledge our debt to those coming after who have carried the service to undreamed of usefulness."



**MAKING DO  
IN DUNVILLE**

*Small utilities have their own brand of problems, but John Dawson is overcoming his with a combination of ingenuity and initiative.*

by Don Wright

**J**OHN DAWSON is a man with a beef. As manager of the Dunnville Public Utilities Commission, serving 2,000 customers, he believes that the problems of the small utilities tend to be overlooked. In his view, the various activities and services of the electrical industry are geared to the needs of the larger distribution systems whereas, if the dividing line be drawn at those employing 15 or more persons, small utilities in the province outnumber the large by four to one.

And he has a hatful of suggestions he would like to see adopted to assist the smaller utility. But the difference between John Dawson and the chronic complainer is a matter of action. John has even more ideas about how the little fellow can help himself. And he has put them to work in Dunnville.

Heavy equipment is a case in point. John concedes that manufacturers have done a dandy job in developing just about every conceivable device needed to make utility construction and maintenance easier. He was an interested if somewhat wistful visitor at the excellent AMEU utility equipment show held earlier this year, but his commissioners would accuse him of over-indulgence if he talked in terms of \$25,000 for an aerial bucket or half that amount for a post hole digger.

Giving full marks to his commissioners for the leeway and co-operation he enjoys in the day-to-day operation of the system, John welcomes their business-like approach to utility affairs.

"After all," he points out, "the total electrical requirements of Dunnville are considerably less than those of Eaton's in downtown Toronto.

And our population is less than the staff of the stores."

Instead of wishful thinking, he shops around for used equipment and by drawing heavily upon the mechanical ability of his men, he has built up a sizeable and very useful fleet of vehicles at little cost.

"Take the case of our aerial platform," the Dunnville manager enthuses, "it's on our books at \$800 and it will do things that would stump a new bucket truck."

The vehicle in question was devised from a 10-year-old fire truck which had recorded 675 miles on the speedometer when it came to John's attention. Welding know-how and a 50-ton mechanical hoist converted it into a versatile utility rig, fitted with a generator, two-way radio from platform to cab and attachments for electrically operated saws. Dunnville, incidentally, claims to be the first utility in Ontario to make use of this type of saw in forestry operations.

An auger mounted on a second-hand tractor picked up from a farm equipment dealer at a total cost of \$668 handles the post-hole digging chores quite adequately. A scraper blade at the front end comes in handy for backfilling and grading.

Underground is becoming synonymous with distribution at Dunnville, and no piece of equipment earns its keep more adequately than a small trenching machine capable of digging an eight-inch trench up to five feet deep. Picked up at a cost of \$1,500, John figures the machine paid for itself in the first year on a five-mile relocation project necessitated by highway construction.

"My equipment stable may not take any blue ribbons at the state fair," John concedes, "but I have 21 workhorses altogether, and their total depreciated book value is \$3,800." With a connoisseur's eye for a bargain, John's favorite shopping centre is the surplus equipment section at Ontario Hydro's A. W. Manby Service Centre. "They prob-

ably think I'm one of the staff out there, he says, but most of my trips pay off—either in equipment or in advice from the experts in one line or another."

Underground distribution is another subject close to John's heart, and in this regard he has established the "Dawson 15-Year Plan." By the end of that period he hopes that Dunnville citizens will have to journey elsewhere in order to see what overhead wiring looks like.

And ask for odds if you bet against him. At least 20 per cent of all services in Dunnville are already underground, including much of the downtown area. Typically, John isn't marking time in argument over the best way to proceed. And if his methods are unorthodox, he is getting results.

Services to all new construction automatically go underground, but it is in the built-up areas where the Dawson approach departs farthest from the norm.

On the theory that the house services add up to the greatest expense, he is burying pole-to-premises wiring



*Small town PUC Manager John Dawson can expect problems ranging from stranded tabbies and blown household fuses to service interruptions whenever he picks up the telephone.*

*Several attractive Dunnville streets are illuminated by these fixtures from the Queen Elizabeth Way. Picked up at bargain prices, they were converted from incandescent to mercury vapor.*



at the request of the individual householder. For this he charges the customer 35 cents a foot, and he has a waiting list as long as your arm. Every house on two streets has been completed by this method and others are nearing completion. When the last customer goes underground on a street, John claims it's a simple procedure to bury the secondaries. If the customer is enlightened enough to install an electric water heater, he gets underground wiring at no charge.

All underground construction is carried out by the utility up to the meter base, and it is indicative of the success of the underground program in Dunnville that 60 of the 63 new

services installed last year were buried. "The way it looks to me," John says, "existing houses are the ones to go after—otherwise we will never get the poles off the street."

With a total staff of 15, John has to forego the personnel officer with a Harvard degree or the public relations expert in the grey flannel suit, but he still manages to maintain top morale and present a very respectable "public image" with a few simple rules of his own.

The key to morale, he is convinced, lies in persuading each employee that he is an essential part of the organization. Such phrases as "lead, don't drive," and "heavy on praise—light on criticism", are more

than platitudes in the Dawson vocabulary.

A more concrete example of John's concern with internal *esprit de corps* is to be found on the sides of the utility's vehicles. Each contains the neatly stencilled name of the regular driver. Too, he believes there is often a dearth of news in the smaller town and finds that the local newspaper like to be kept informed. He makes a point of referring to employees by name in reports to the press.

John sums up his philosophy of public relations in a small town with two words—good citizenship. "Everybody knows the manager and his staff," John somewhat ruefully explains, "and it behooves the PU to



All 15 members of Dunnville PUC staff feel they are essential part of show. Driver, far left, points to his name stenciled on utility vehicle. In photo, far left, below, John Dawson checks progress of underground wiring for street lights. Versatile aerial platform, opposite page, is mounted on 10-year-old fire truck chassis. View of business section, left, illustrates progress in underground distribution. Small trenching machine, lower left, paid for itself in one year. Auger mounted on farm tractor, below, is adequate for utility's post hole digging requirements.



to be a good neighbor." This shows up in a dozen ways at Dunnville, ranging from numerous pole-top rescues of frisky felines to free service calls, no charge for new customer connections, lending a hand with Christmas decoration and announcing planned service interruptions well in advance.

No aspect of the utility is more constantly before the public than its vehicles, and John has ensured that they are not overlooked as they dart and fro on their rounds. Scrubbed and shiny at all times, they have been painted an immodest orange and green.

Underlying the Dunnville approach to PR is a determination to keep the

people informed. The press enjoys a standing invitation to sit in on commission meetings, and some years ago the PUC was instrumental in organizing the Municipal Services Association. This unique group, which includes town council and representatives of the telephone company, schools, board of trade and the various civic organizations, meets once a month with the press. Members with a project underway are especially urged to attend so that whenever an air compressor commences to chatter on main street, or a new fence marks the start of a construction job — everybody knows what it's all about.

Ideas are John's stock in trade, and

while our space couldn't begin to encompass all the thought-provoking procedures he has developed, it seems apparent that the people of Dunnville are getting as much per dollar of investment in their public utility as anyone—anywhere.

And the next time you are lucky enough to tour the tidy, tree-shaded streets of Dunnville, take a close look at the street lights. If those 175-watt mercury vapor lamps look familiar—they just might be. Many of them were used to light the Queen Elizabeth Way. John picked them up from the Department of Highways, at bargain prices, of course, and converted them from 300-watt incandescent.

## President's "Pep" Talk

# HYDRO COMMISSIONERS ON THE JOB

*District groups composing the Ontario Municipal Electric Association meet across the province to deal with administrative problems in the field of electrical distribution. The Association works closely with Ontario Hydro and local utilities in directing Ontario's publicly-owned Hydro enterprise.*

If the Ontario Municipal Electric Association may be likened to a football team, then it is only reasonable to view its president as the captain and, in this capacity, E. C. (Ted) Dash of Sudbury gave his men one of the most stimulating "pep talks" they have ever enjoyed.

Delivered at the District 3 annual meeting in Port Arthur, and reiterated at OMEA district conventions across the province, Mr. Dash's address stressed the need for enthusiasm, vitality and knowledge on the part of the membership in the pursuit of association objectives.

Drawing the attention of delegates to the trust placed in them by the people in electing them Hydro commissioners, the speaker said:

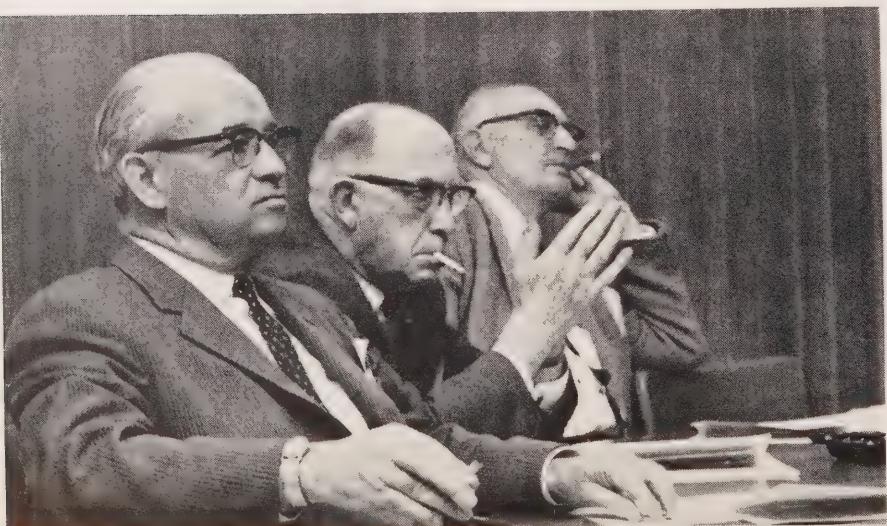
"It is your duty to equip yourselves with all of the pertinent information that you can possibly get so that you can measure up to the confidence vested in you and become outstanding civic leaders in your communities." He believed the place to get help and advice in this regard was at the district conventions of the association and at the work sessions of the annual meeting.

"To keep the organization alive and active," he continued, "You must be alive and active yourselves." He went on to say:

"In this organization I have never met lazy men, I have only

*This trio of OMEA executives is a study in concentration at the District 9 meeting in Cochrane. Left to right are: Ontario Hydro Commissioner D. P. Cliff, secretary; John McMechan, Toronto, executive vice-president and E. C. Dash, Sudbury, president.*

*Meeting in Port Arthur, District OMEA delegates elected this executive for 1963-64. Left to right, front row: J. D. Phillips, Schreiber, 2nd vice-president; James Currie, Port Arthur, president at H. Keffler, Sioux Lookout, 1st vice-president; back row: directors G. Waghorn Nipigon, and E. J. Hawthorne, Dryden; J. R. Aiken, Fort William, past president; A. J. Marshall, Fort Frances, director; E. A. Vigars, Port Arthur, secretary. Registering at the District 3 convention in Port Arthur, left to right, are: Ree W. E. D'Arcy, Schreiber; D. M. Taylor, Fort Frances; M. H. Kelly, Atikokan and R. Lawler of Sioux Lookout.*



## Port Arthur Hosts District 3 Meeting

met unchallenged men. Challenge is the thing that releases energy in a man. Challenge creates energy and gives direction. So I challenge you to keep this OMEA alive at all times."

With regard to the association's relationship with Ontario Hydro, Mr. Dash said that the provincial Commission "relies on us very strongly for advice because they know that in our organization we have many individuals who are authorities on problems common to us all." He said it behooved members of the association to be on guard against "disturbers who would try to destroy the structure which provides power at rates which are among the lowest in the world today, and who would try to destroy our unity and purpose."

In conclusion, Mr. Dash said: "I am working very hard this year trying to give the OMEA a shot in the arm, and I find that the time is going to be altogether too short. The pace has been strenuous, but I wouldn't trade this year for any other year of my life." ■

Municipal utility commissioners from all parts of Northwestern Ontario met in Port Arthur in September for the annual fall meeting of District 3, Ontario Municipal Electric Association. They were joined at the Lakehead by association representatives from as far as Toronto, Kingston, St. Thomas and Chatham.

More than 80 utility officials were on hand for the two-day convention — an attendance which OMEA President E. C. Dash termed "splendid" in view of the great distances involved. Mr. Dash also had a word of praise for the excellence of the Port Arthur PUC building, now undergoing extensive renovations, which is owned by the light and power department.

In a brief review of the year's highlights, John Torrance, Etobicoke, president of the AMEU, revealed that his association was presently at grips with such pressing problems as higher utilization voltages, apartment metering and preparation of a course on the safe use of aerial baskets. He also disclosed that sales in the neighborhood of \$3,000,000 could be directly attributed to the utility vehicle and equipment show sponsored by the

AMEU at Niagara Falls, last spring.

Elected president of District 3 for the coming term was James Currie, chairman of Port Arthur PUC. H. Keffer, Sioux Lookout, and J. D. Phillips, Schreiber, were named vice-presidents.

A resolution suggesting that heat loss calculations be carried out in terms of BTUs rather than watts, as at present, will be forwarded from District 3 to the OMEA Resolutions Committee for further study. Speaking in favor of the motion, E. A. Vigars, Port Arthur, felt that Hydro should "speak the language of the heating trade" in attempting to sell electric heating.

A skit entitled "Kristeen's Tale of Two Cities" brought a change of pace in the business sessions and sent delegates home with a better understanding of how complaints should be handled. Gist of the performance was the different



## Bad Accounts Concern Northland Delegates

treatment accorded an irate female customer by "Two Wire City H.E.C.", of "Blue Flame County", and by "Medallionville P.U.C." of "Electric County."

In bringing delegates up to date on the Municipal Pensions and Insurance Plan, R. S. Reynolds, Chatham, assured his listeners that it still compared very favorably with any in effect or proposed at the present time, and that its benefits went far beyond those indicated as pertaining to government-sponsored plans.

Speaking at the opening day luncheon, Alexander Phillips, manager, Northwestern Ontario Development Association, suggested that Ontario Hydro should take the lead in promoting the industrial development of the Northwest. He said that a surplus of electric power existed in that part of the province, and Ontario Hydro, because of its stature and excellent reputation at both the local and international level, should establish a "commando unit" with the primary purpose of "selling" the north to industry.

It was decided that the 1964 annual meeting of District 3 would be held in Dryden, and that all future meetings would take place on the Monday and Tuesday following Labor Day. ■

Delinquent accounts and the pros and cons of deposits and service connection fees were among the problems discussed at an open forum held during the Northland Municipal Electric Association annual meeting at Cochrane.

Some delegates urged that both type of fees be absorbed by the utility on the grounds that these charges often cost more in office expenses than they were worth. It was also claimed that they had a restrictive effect on promotion and hindered good public relations.

One suggestion to help overcome delinquent or "skipped" accounts took the form of a resolution, endorsed by the meeting, that a certificate be issued by all municipal utilities and rural operating areas to paid-up customers moving to another area. They would be required to present the certificate before electric service would be connected at the new address.

Other resolutions approved at the meeting included a request for legislation to permit staggered terms of office for commissioners elected on a two-year basis; asked that the government appoint a representative from Northern Ontario to the Ontario Hydro Commission when the next vacancy occurs; and suggested that the OMEA retain a firm of labor relations advisers to provide assistance to local commissions engaged in labor negotiations. ■

## Georgian Bay M.E.A. Meets in Muskoka

Well-attended business sessions on subjects ranging from labor relations to sales promotion featured the 38th annual convention of the Georgian Bay Municipal Electric Association at Elgin House, Port Carling, in September.

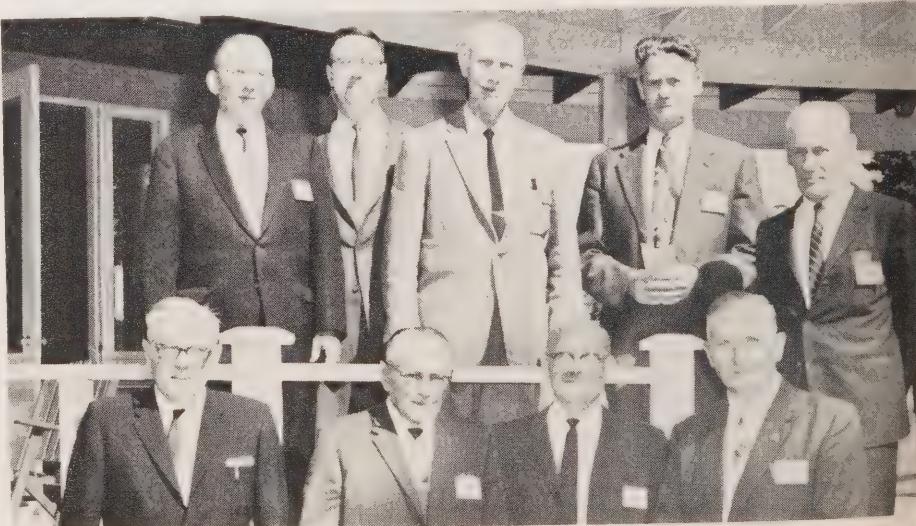
Some 300 delegates representing 60 municipal electrical utilities and Ontario Hydro participated in deliberations relating to electrical utility administration.

Presiding was Dr. J. E. Wilson, president of the Georgian Bay Association and chairman of Barrie Public Utilities Commission. Dr. Wilson was re-elected to the presidency, while J. J. Cross, Huntsville, and D. A. Watt, Orangeville, were named vice-presidents.

Speakers during the two-day gathering included E. R. Alexander, Barrie PUC commissioner; Harry Hyde, general manager, Toronto Hydro; E. G. Reynolds, Ontario Hydro, and Lt.-Col. A. A. Kennedy, Ontario Hydro commissioner and vice-chairman of Owen Sound PUC.

Members approved a proposal to hold the 1964 convention at Elgin House on September 21 and 22. ■

Re-elected president of District 2 OMEA for a second term was Dr. J. E. Wilson of Barrie. Members of the new executive, left to right, front row: W. R. Tomlinson, Port Elgin; Ernest Theaker, Paisley; Lt. Col. A. A. Kennedy, Owen Sound; David Kennedy, Kincardine—directors. Back row: D. A. Watt, Orangeville, 2nd vice-pres.; Alex Macaulay, Elmvale, director; Dr. Wilson; J. J. Cross, Huntsville, 1st vice-pres.; Robert Butter, Owen Sound, sec.-treas. Director Norval Orser, Orillia, is not present.



## District 2 Speaker Urges More Rate Uniformity

A plea for greater uniformity in municipal electrical utility rate structures was among the business session highlights of the 1963 annual convention of the Georgian Bay Municipal Electric Association.

In a talk entitled "Penny Power", Harry Hyde, general manager of the Toronto Hydro-Electric System, told his attentive audience that there are between 80 and 100 different residential rate schedules in Ontario today. "Our customers move around considerably between adjacent municipalities and they find it difficult to understand the reasons for these differences."

In calling for a complete revision, Mr. Hyde suggested that consideration be given to a two-block residential rate structure in which most of the "customer" charges would be recovered in the first block. "Thus in the second block we need only recover the cost of energy with a rate of one cent or less a kilowatt-hour, opening the way to introduce the promotional appeal of 'penny power,'" he said.

Another recommendation put forward by Mr. Hyde in his thought-provoking address was some modification of the approach to commercial and industrial rate classifications. He suggested that a new demand and energy rate be designed after the same logic as "penny power".

## Enthusiasm Prevails At Northland Meeting

If the key to a successful conference is enthusiasm then the annual fall meeting of the Northland Municipal Electric Association, held recently in Cochrane, must be rated tops.

More than 100 delegates attended from all parts of Northeastern Ontario, and those who showed signs of flagging after long hours in smoke-filled rooms were able to recoup their vitality in the sauna (steam bath), followed by a cooling (58 degrees) dip in northern lake waters. But artificially induced *esprit de corps* was hardly needed, as the provocative and informative business sessions were themselves a cure for pessimism.

For Ted Dash, the ebullient president of the OMEA and a confirmed Northerner, the excellent turnout and lively meetings were good omens for the forthcoming annual meeting of the parent association, next March, in Toronto. He urged delegates to bring their wives and push registration over the 1,500 mark.

In addition to regular business, delegates participated in a lively "bull session" and resolutions debate. Recent developments in their particular fields were reviewed by John Torrance, AMEU president;

Harry Foy, manager of the Electric Service League and Ontario Hydro Chairman W. Ross Strike. E. F. Burbank, Toronto Hydro, brought delegates up to date on activities of the AMEU Engineering Board.

As a fitting climax to a meeting which overflowed with optimism about the future of the North, many delegates attended the official opening of the Otter Rapids Generating Station, first of four new plants being constructed by Ontario Hydro on the James Bay watershed.

An indication of the impact these developments are having on the economy of the North was revealed by J. M. Hambley, general manager of Ontario Hydro, who pointed out that some \$41,745,000 in wages, most of it remaining in the North, had already been spent in connection with these projects. He said that \$8,000,000 worth of supplies had been purchased from local suppliers.

In reviewing developments in the Northeast, Ontario Hydro's regional manager, H. D. Graham, told delegates that electrical demand in the nickel and newsprint industries was down in 1962, due to marketing conditions and a prolonged strike of American newspapers. He said that this had been partly offset by increased demands by iron and silver producers.

Delegates elected W. E. Edwards of Sudbury as District 9 chairman. John Darby, Espanola, and Rod Duncan, Coniston, were elected vice-presidents for the new term. ■



This new executive was elected by District 9 OMEA meeting in Cochrane. Left to right are: Rod Duncan, Coniston, and Ed Peplow, Sault Ste. Marie, vice-presidents; A. C. Maahs, Capreol, director; Wes Edwards, Sudbury, president; L. McKinnon, Cochrane, director; and John Darby, Espanola, vice-president. Directors not present include Walter Cooke, West Ferris; Lionel Bouley, Hearst; Walter Currie, Thessalon; and C. A. Smith, Chapleau.

## District 9 Speaker Talks Cost Reduction

Dennis Gillman, Ontario Hydro comptroller, told delegates to the Northland Municipal Electric Association annual meeting at Cochrane that methods of cost reduction may vary between utilities such as Latchford and Sudbury (159 and 24,000 customers), but there were underlying principles which applied to all utilities.

He felt it was necessary for utilities to adopt adequate capital budgeting procedures including at least quarterly reporting of these activities.

Periodic review of operation and procedure would help answer whether efficiency of operation could be improved, determine whether there was duplication in duties, overstaffing, or if new mechanical equipment could lower costs.

Management should, he felt, examine inventory levels at frequent intervals to assure that excess stock is not carried. Periodic review of accounts receivable was also necessary to assure that collection procedures were being followed and that these procedures were getting results.

By following such programs, Mr. Gillman said, a utility could assure its customers of the lowest rates possible. ■

*Delegates to Cochrane meeting take time out to inspect town's newest industry — a plywood plant. Group at far right examine prop used in "Treasure Chest Special" — unique Hydro promotion. Meeting at Muskoka, these District 2 delegates, left to right, are: W. J. Baker, Grand Valley; George Hutcheson, Huntsville; John Murphy, Barrie; S. R. Walkinshaw, Orillia and John Cross, Huntsville.*

## A 10-Man Hydro Commission?

Demonstrating customary keen interest in Hydro affairs, delegates attending the 1963 Georgian Bay M.E.A. annual convention devoted much of one business session to consideration of three resolutions submitted by the Port Elgin Hydro-Electric Commission.

Sparking considerable debate was a recommendation that the Ontario Hydro Commission be composed of a chairman appointed by the Ontario Government as well as commissioners appointed by each of the nine districts comprising the Ontario Municipal Electric Association. The resolution received assent.

The second Port Elgin motion to receive approval proposed that Ontario Hydro undertake a feasibility study of the Harricanaw River diversion scheme in view of the depletion of undeveloped water-power sites in Southern Ontario and an anticipated growth in demand for electric power.

Delegates also endorsed a proposal from the Port Elgin utility commissioners that Ontario Hydro supply power to each municipal utility at a uniform rate.

A fourth resolution, from the Georgian Bay M.E.A. executive committee, proposing that the "OMEA establish a committee to study, report and make recommendations on the question of ownership of service entrance equipment by utilities as an important promotional tool," also received approval. ■



## Advertising Builds Load In Barrie

In the opinion of Barrie Public Utilities Commission representatives "it pays to advertise."

Addressing delegates attending this year's annual convention of the Georgian Bay Municipal Electric Association, E. R. Alexander, Barrie commissioner, described the successful results obtained in promoting the installation of rental electric water heater units in that city.

The rental water heater plan was introduced by the Barrie Commission in February, 1962, Mr. Alexander said. With a sporadic promotional campaign, 200 units were installed in the remaining 11 months of that year. Up to July 30 this year, with a consistent promotional campaign, 327 units were installed.

Comparative installation figures for the same months in the years 1962 and 1963 present fairly conclusive evidence that if utilities "do not continually keep their product, electrical service, before the customer by means of consistent advertising, he will take his business elsewhere. He must be kept constantly aware that we are in the electric water heater business and that we are anxious to serve him," the speaker asserted. ■





# along hydro lines

## Hydraulic Resources Continue Critical

Accentuated by the lowest discharges from Lake Erie since the minimums recorded in the mid 1930's, low stream flows in Ontario Hydro's East System (Southern and Northeastern Ontario) continue to emphasize the importance of inter-connections with adjoining utility systems and the vital role of the Commission's own thermal-electric generating facilities.

Production from hydraulic plants is even lower than last year because: (1) regulated outflows from Lake Ontario are very low; (2) near-minimum flows on the Niagara and St. Lawrence rivers; and (3) much below normal flow on the Ottawa River.

Fortunately, above normal precipitation in late August improved flow and storage somewhat on other watersheds. Storage over which control is exercised recovered from 23 per cent below normal in July, to only nine per cent below normal in September.

However, much below normal water levels on the Great Lakes are expected to prevail all winter. Flow on the Niagara River was 36,000 cubic feet per second below median values at the end of August and the St. Lawrence was down 49,000 cfs. The situation deteriorated last month. The Niagara flow was down an average of 43,000 cfs—20,000 cfs less than September, 1962. The St. Lawrence averaged 52,000 cfs below median values in September.

Ideal evaporating conditions — sunny and cool weather — helped reduce the levels of lakes Erie and Ontario by 0.2 feet during the first three weeks of September.

Emphasizing the key role played by the Commission's steam plants in the system during periods of low flow, coal consumption during July and August totalled 343,000 tons, compared to 220,000 tons in the same months last year. Even greater coal consumption was avoided by purchases from Hydro Quebec substantially in excess of contractual commitments, and by some transfers from the Detroit Edison Company.

While August rainfall was helpful, continuing low flows in the Great Lakes indicate that hydraulic resources will remain critical for some time, with increasing reliance on steam generation and power transfers from adjoining systems.

Water levels in the Western System (Northwestern Ontario) remain satisfactory. ■

## D. A. Ramsay Appointed Municipal Service Engineer

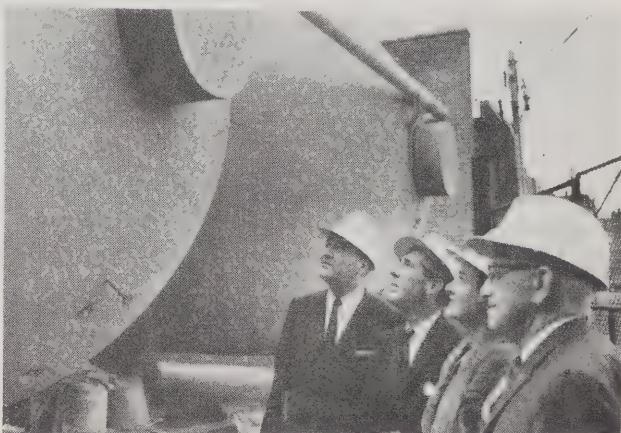
Donald A. Ramsay has been appointed municipal service engineer for Ontario Hydro, at Head Office, Toronto. He replaces E. G. Bainbridge who is on a leave of absence in Ghana, working on the Volta River Authority project.

As municipal service engineer, Mr. Ramsay will act in an advisory capacity to the regions in the matter of rates and other areas of mutual interest to Ontario Hydro and the associated municipal electrical utilities.

Mr. Ramsay joined Ontario Hydro in 1946 after graduating from Queen's University. He has worked with Ontario Hydro in various sections of Western Ontario and, prior to his recent appointment, was consumer service engineer for the Western Region.

J. W. Young will replace Mr. Ramsay as consumer service engineer, Western Region. Mr. Young had previously held this position in the Eastern Region. ■

## Heat for Downtown Toronto



City Council recently took advantage of an invitation by Toronto Hydro to learn how electricity will be employed to heat Toronto's futuristic city hall and other buildings in the downtown area. Shown examining the steam accumulators outside the utility's new central heating plant (left to right) are: Harry Hyde, general manager, Toronto Hydro; Mayor Donald Summerville; Alderman Mary Temple and John McMechan, vice-chairman of Toronto Hydro. Utilizing off-peak electric energy, the system involves the use of electric steam generating units and steam storage vessels. ■

## Leamington Opens New Service Center

The first phase of a relocation and construction program by Leamington Public Utilities Commission was completed recently when Charles Howdon, PUC chairman, accepted keys to a new \$58,000 service center building.

The keys were presented during a brief ceremony by John Couchman, a member of J. P. Thomson Associates, Windsor, who designed the building.

To be used as a base of operations for Hydro and water department maintenance and construction

crews, the new 5,900-square-foot service center provides extensive workshop areas, a special meter shop and a small office. It is located on Hazelton Avenue.

Leamington PUC will receive a rebate of 75 per cent of the labor costs associated with the project, because the service center was built under the 1962-63 municipal winter works program.

According to Mr. Howdon, present plans call for construction of a new office building during the winter season of 1964-65, and construction of a four-bay garage for the commission's fleet of vehicles.

Completion of the PUC complex of buildings in the Hazelton - Erie north area is scheduled for 1966. ■

## MUNICIPAL BRIEFS

**Fort William Hydro** is continuing its strong load building program and, according to a recent report by J. W. Boorman, sales service supervisor, "Hydro Specials" on clothes dryers and refrigerator-freezers have been particularly successful. Among the highlights of this year's activities were joint meetings with the trades. Many questions concerning electric heating were cleared away at a meeting with Port Arthur PUC, Ontario Hydro and the architects, consultants and electrical contractors of the Lakehead area. Another informative general meeting was held with the plumbers and contractors to ensure that all were familiar with the utility's policy and service with regard to water heaters.

**Dryden Hydro** will purchase Ontario Hydro distribution system and other assets totalling more than \$12,000 in an area annexed by the town in 1960. Similarly, Rockland PUC is purchasing Ontario Hydro facilities, in an area annexed earlier, for some \$20,000.

**St. Thomas Times-Journal** recently won an award for the best retail support of a national advertisement in a contest sponsored by the Newspaper Advertising Managers' Association of Eastern Canada. The award was granted for a display submitted by the newspaper showing outstanding co-operation at the local level in support of the Ontario Hydro clothes dryer promotion "Sunshine Special." Supporting pages of retail advertising and a follow-up by the St. Thomas PUC and local retail appliance dealers resulted in 17,628 lines of bonus advertising to the national campaign.

In accepting the award, E. P. Ray, director of advertising for the newspaper, said "A big share of the credit must go to W. J. Underhill, PUC manager, and to the retail merchants who give full co-operation to such promotions. Mr. Underhill's leadership in effectively spear-heading electrical promotions has resulted in the local PUC enjoying one of the highest per capita record of sales in Ontario produced through their liaison with St. Thomas electrical appliance dealers."

**Deep River Hydro** Chairman Al Dahlinger and Superintendent R. E. Spence recently took a crosscut saw to an old Hydro pole in a symbolic gesture to

signify the end of overhead wires in an important area of the town.

**Parkhill PUC** has undertaken to participate in both the Municipal Hydro-Electric Pension and Insurance Plan and in the supplementary benefits. Effective date of participation is May 1, 1963.

**Sarnia Council** will give full consideration to both oil and electric systems for the heating of a new \$1.2 million city hall. Detailed layouts are now being prepared.

All **customer-owned** water heaters are now being serviced without charge by Waterloo PUC. The customer pays only for the parts. Previously, only flat rate units were serviced free.

**Port Elgin Hydro** picked up a saving of about \$1,000 when it was able to purchase light fixtures which were used for only two weeks at the World's Plowmen Match. They will be utilized in the town's \$8,000 street lighting program.

**New Toronto** is among those municipalities which have now been associated with the "Hydro Family" for half a century. The electrical requirements of the community have grown from 50 h.p. in 1913 to approximately 38,000 h.p. at the present time.

**Ontario Municipal Board** has refused the request of the Town of Essex to increase membership of the PUC without a vote of the electorate. Voters defeated a plan to increase the membership in 1930 and again four years ago.

**Point Edward** and Petrolia PUC's were joint hosts at a recent meeting of District 8 OMEA load promotion committee. Representatives of all Lambton County municipalities were present.

**Christmas** got an early start in the Village of Watford—but it didn't last. During a paving job on Main Street, where the PUC is putting in new standards and street lighting fixtures at the same time, a backhoe tore up the underground wiring. The only other lights available were strings of Christmas fixtures and these were used to keep the business section from a complete blackout.

**Brockville PUC** has awarded a \$30,000 contract for the construction of a service building adjacent to headquarters. Separate tenders will be called for heating and lighting.

**Scarborough Council** has approved a PUC motion that all new residential subdivisions be supplied with underground electrical service. Cost is to be negotiated between the developer and the commission.

**In the interest** of improved liaison, a committee will be formed consisting of members of the city council, house builders, land developers and the Port Arthur PUC.

**A noticeable upswing** in electric heating interest was discussed at a recent meeting of the Listowel PUC. In addition to a new public school, commissioners pointed out, other large buildings in town will

switching to electric heating, including the Legion Auditorium. Commissioner T. J. Moffat told of a homeowner who had changed to electric heating without the prescribed insulation. He said the man was quite happy with the results, claiming that his costs for energy never exceeded \$1 per day during the coldest weather.

**Personalities in the news** include *William Howley*, deputy city treasurer, who has been appointed secretary-treasurer of the Brockville PUC. He succeeds *Elcombe St. Dennis* who resigned after seven years in that position.

*Harry Dawe*, 78, died recently at Leamington. He had been associated with Hydro for 40 years, and was superintendent of the PUC electrical department at the time of his retirement in 1956. Mr. Dawe started his employment with the Detroit Edison Company, the original supplier of power in the area. ■

#### **Metermen's Workshop Scheduled for November**

Metermen's workshops are shaping up as annual events now, according to W. R. Mathieson, manager of the Association of Municipal Electrical Utilities. He reports that the second such gathering will be held at the Skyline Hotel, Toronto, November 14 and 15.

Highlights include a demonstration of remote reading of meters as applied to large customers, to be presented by Canadian General Electric and The Bell Telephone Company of Canada. Delegates will be invited to tour the Richview Control centre the evening of November 13 and afternoon of the 15th.

G. F. (Frank) Jannaway, general manager of York Township Hydro, will speak on standard interpretation of rates. He is chairman of the AMEU rates committee.

As was the case last year, the emphasis will be on workshops and discussion groups. ■

#### **Supplementary Heating Latest Hydro Promotion**

On-the-spot answers to questions about supplementary electric heating installations will be available at some 200 Electric Heat Information Centres across Ontario, from October 18, 1963, until February 29, 1964.

Established in connection with the "Make Your Comfort Complete with Electric Heat" campaign being conducted during this period, the information centres contain displays of supplementary electric heating equipment available locally. Through the co-operation of participating municipal utilities, manufacturers, electrical contractors, and Ontario Hydro, the information centres are located in municipal utility offices, contractor showrooms, building supply houses, and other trade centres with adequate display facilities.

The electric heat centres are geared to provide information customers can act upon immediately. Questions about the cost of equipment on display are answered promptly from manufacturers' suggested

selling price lists. Installation costs can be provided just as quickly.

Prior to the start of the campaign, each participating utility established flat rate charges for supplementary electric heating installations. Electrical contractors taking part in the promotion have agreed to these charges, and a list of their names is available at each information centre.

Utilities will not sell or install supplementary electric heating equipment, but they arrange for all interested customers to be put in contact with a local participating contractor.

The "Make Your Comfort Complete with Electric Heat" campaign is being supported by continuous municipal Hydro advertising and promotion during the 18-week period. ■

#### **Kincardine PUC Honors H. J. (Sandy) Cameron**



Retiring after 40 years with Kincardine PUC, Superintendent Harold Cameron tries easy chair presented by commission. Left to right: L. B. Davey, chairman, and commissioners David Kennedy, Mayor Herman Young, Stan Bett and Lloyd Hutton.

In recognition of more than 40 years of service with Kincardine Public Utilities Commission, H. J. (Sandy) Cameron was presented with an easy chair recently by Mayor Herman Young, acting on behalf of the commission.

Mr. Cameron resigned from his position as superintendent because he felt the workload required a younger man in top physical condition. He joined the Kincardine utility in 1920 and, four years later, became superintendent. He held this position until his retirement, except for a two-year absence. ■

## **LETTERS to the editor**

Dear Sir:

As an indication of how Ontario weekly newspaper editors read *Hydro News* each month, our interest in the September issue was drawn primarily to the feature "Live Lines and Bare Hands." We have watched these portable insulated booms and work buckets with fascination, indicative of the constant advances made in safety and speed in line repairs. (continued)

Most of us who have used Hydro in business and our homes for 50 years continue to build up our service load—and constantly marvel at how much dependence we place in Hydro service for every phase of business and living. May it never fail us!

Even the reminiscence of former District Engineer E. M. Lawlor failed to escape us . . . and we still recall our frustration when first installing a Linotype in our plant in August, 1920, Mr. Lawlor was adamant that we must pay 15 cents per kilowatt-hour for heating the metal pot . . . because we were using more power for heating than we were for driving motors, etc.

Yet he amiably agreed my mother could use all the current she wished for her new electric range at half the commercial rate!

However, Mr. Lawlor was struggling with an intangible, little known genie that has revolutionized our modern world, to which we are constantly grateful as we notice the electrical click of our oil furnace for automatic heat, the chilling coolness of the air conditioner, and the new, silent but efficient electrical heating.

As the old gentleman who taught us the printing business from 1910, and we relieved as editor in July, 1918, oftentimes remarked: "I'd like to stick around for another 50 years, just to see what can happen next."

William C. Aylesworth,  
Editor and Publisher,  
Watford Guide Advocate.

*Editor's Note:* times do change and Hydro is now pleased to be able to supply electric energy for heating at rates which are among the lowest in the world.

## Attaining Great Heights



Latest addition to the growing vehicle fleet of the Amherstburg PUC is this modern articulated aerial basket, shown being used to service street lights. Other equipment recently acquired includes a trenching machine and a service truck. In a report on the utility's progress, the *Amherstburg Echo* suggests that a long-term, town-wide program of underground distribution construction is in the planning stage. ■

## NUPSE-NUPE Merger Creates Union Giant

Canada's largest national union was created recently when the 32,000-member National Union of Public Service Employees and the 55,000-member National Union of Public Employees amalgamated.

The Canadian Union of Public Employees, as the new union is called, will be headed by Stanley Little, NUPSE president.

CUPE is second in size only to the 90,000-member United Steelworkers of America, an international union.

## Outstanding Property Record

Speaking at a recent meeting of area managers, Harry Hustler, Ontario Hydro's director of Property, said that the Commission had an outstanding record of good relations with property owners. He said that less than 90 of 89,000 transactions handled by the Property Division in the past 10 years had ended up in court. ■

### Monthly Energy Supplied in Aug. and Sept.

Primary energy provided by Ontario Hydro in August totalled 2.97 billion kilowatt-hours, an increase of 5.3 per cent over the same month a year ago. In September\* the figure was 2.99 billion kilowatt-hours, an increase of 5.2 per cent over the same month last year.

For the first 9 months of 1963 the total is 27.6 billion kilowatt-hours, up 4.8 per cent over the same period last year.

Adjusted for seasonal influences, primary energy demand in August was 3.14 billion kilowatt-hours, 1.3 per cent higher than the previous month. In September it was 3.15 billion kilowatt-hours, 0.2 per cent higher than August.

The seasonally adjusted total for August represents 37.69 billion kilowatt-hours at annual rates. This is 271.0 per cent of the energy demand in 1949. Allowing for seasonal influences the September energy demand, projected at annual rates, would result in a yearly output of 37.84 billion kilowatt-hours. This is 272.0 per cent of the energy demand in 1949.

\*September figures, incorporating revised factors on a seasonally adjusted basis, are not directly comparable with previously issued data. ■

## "Free-Loader" Device Works From Electrostatic Field

Bureau of Reclamation researchers at Denver are said to have invented a device, nicknamed Free Loader, which works from the electrostatic field surrounding high voltage lines. On 230-kv lines, the device collects 1.9 kilowatts at 120 volts. The unit is claimed to offer an inexpensive source of power for remote installations such as warning lights, microwave relay stations, and other electric communication equipment.

# OFF THE WIRES

It is rare indeed when the diverse individual newspapers which make up the daily and weekly press of this province see eye to eye on any one particular event but a cross section of reports carried in recent weeks suggests unanimity in at least one respect. Editorial after editorial views the recent resignation of Robert Macaulay from the provincial cabinet with regret. And phrases like "human dynamo", "vigorous young minister" and "bundle of energy" creep in with such regularity that all the accounts might have been penned by the same author.

Forced to confine himself to the duties of a regular member of the Legislature for reasons of health, Mr. Macaulay will find solace in the knowledge that he has won universal respect and admiration for the job he has done on behalf of this province. We can only join the chorus in wishing him a full recovery and express the hope that he will eventually be able to resume the leading role for which he is so amply endowed.

There was a day when a camping expedition called for a little fortitude on the part of the participants and the prospect of a few nights under canvas was enough to kindle the faint spark of pioneering instinct which continues to flicker in most of us. Even when the government stepped in to provide cleared camp sites with neatly stacked kindling, fireplaces, tap water and two-holers, some of the adventure remained.

But if the new camp site provided for public use by the Southern Edison Company in the mountains of Central California is a harbinger of things to come then we can visualize the day when it will no longer be necessary to climb out of incubators.

Among the features of the Shaver Lake camp sites are electric stoves and conveniently located outlets for razors, can

openers, hair dryers and, bless our souls, electric blankets. It goes without saying that such primitive necessities as dressing rooms, hot showers and a trout stocked lake are also provided. Firewood is available for those who insist on atmosphere.

The resort was created as a public service and Shaver Lake is one of a half-dozen man-made reservoirs associated with Edison's \$214,000,000 complex of dams and power plants on the San Joaquin River and tributaries.

Far be it from us to knock all-electric camping but there is still something to be said for roughing it in the good old fashioned way. If nothing else it whets the appetite for all-electric living amid the comforts of home.

Subjected as we are, day after day, to the sophistries of Madison Avenue advertising, it is refreshing to come across a more direct approach—such as the ad which recently came to our attention in the Hudson Weekly Newscast of Northwestern Ontario. The ad read: "Did you pay your Street Lighting Bill? The funds are getting very low and when there is no more money to pay to the Hydro for this service, the street lights will be cut off."

Grandmother will have to look to her laurels if reports coming out of Britain have any substance. An English scientist is said to have developed a machine which can knit many times faster than a woman and is capable of knitting such unlikely objects as boats and automobiles in addition to wearing apparel.

Kenneth McQueen, the inventor, says it can knit in three dimensions. It will, he says, produce coats, dresses, suits or shirts at the rate of 56,000 a year in one piece with curves and lapels all tailored in. By substituting fibre glass for yarn, the inventor claims, the machine can just as easily turn out a yacht hull or a car body. To do so, it

would only be necessary to feed the appropriate coded instructions into the computer.

Since the machine is directed by a computer, it seems reasonable to add grannies to our list of persons likely to be displaced by automation. Others have included doctors, editors, lawyers and artists.

After returning from a week-long hunting safari into the wilds of Northwestern Ontario, from which we returned with a bad cold and very little else, we were somewhat perturbed to read that a 400-pound bear had been "bagged" in a novel manner in the Port Arthur area. It seems that a lightning protector, torn loose by the wind, had caused a short circuit in a high tension line. A calf coming in contact with the dangling wire was killed and bruin met his doom when he sank his teeth into the calf. Pretty involved, perhaps, but worth keeping in mind for next year's hunt.

A similarly disastrous chain of events was set off in London, according to an AP dispatch, when John Moffitt flicked a dart at the dartboard in his favorite pub. He missed and hit an electric light bulb causing a short circuit which blew the fuse.

In the darkness, the pub keeper went to the fuse box downstairs. Groping for it, he lost his footing and fell down the stairs. This frightened the pub watchdog who promptly bit him. His yell caused the bartender to smash a glass and cut his hand.

When the pub keeper finally got the lights on he came upstairs to find that someone had stolen the dartboard.

Anyone interested in a frequency converter? Galt PUC will be pleased to handle initial inquiries about a General Electric 25/60 cycle, 550 volt, 156 kilowatt frequency converter owned by one of its customers.

**Increasing your living space?**

**You can quickly install clean,  
flameless **SUPPLEMENTARY****

**ELECTRIC HEATING for**

**less than it costs to extend your  
present heating system. There  
are many heating units to choose  
from — contact your qualified  
electric heating contractor or:**

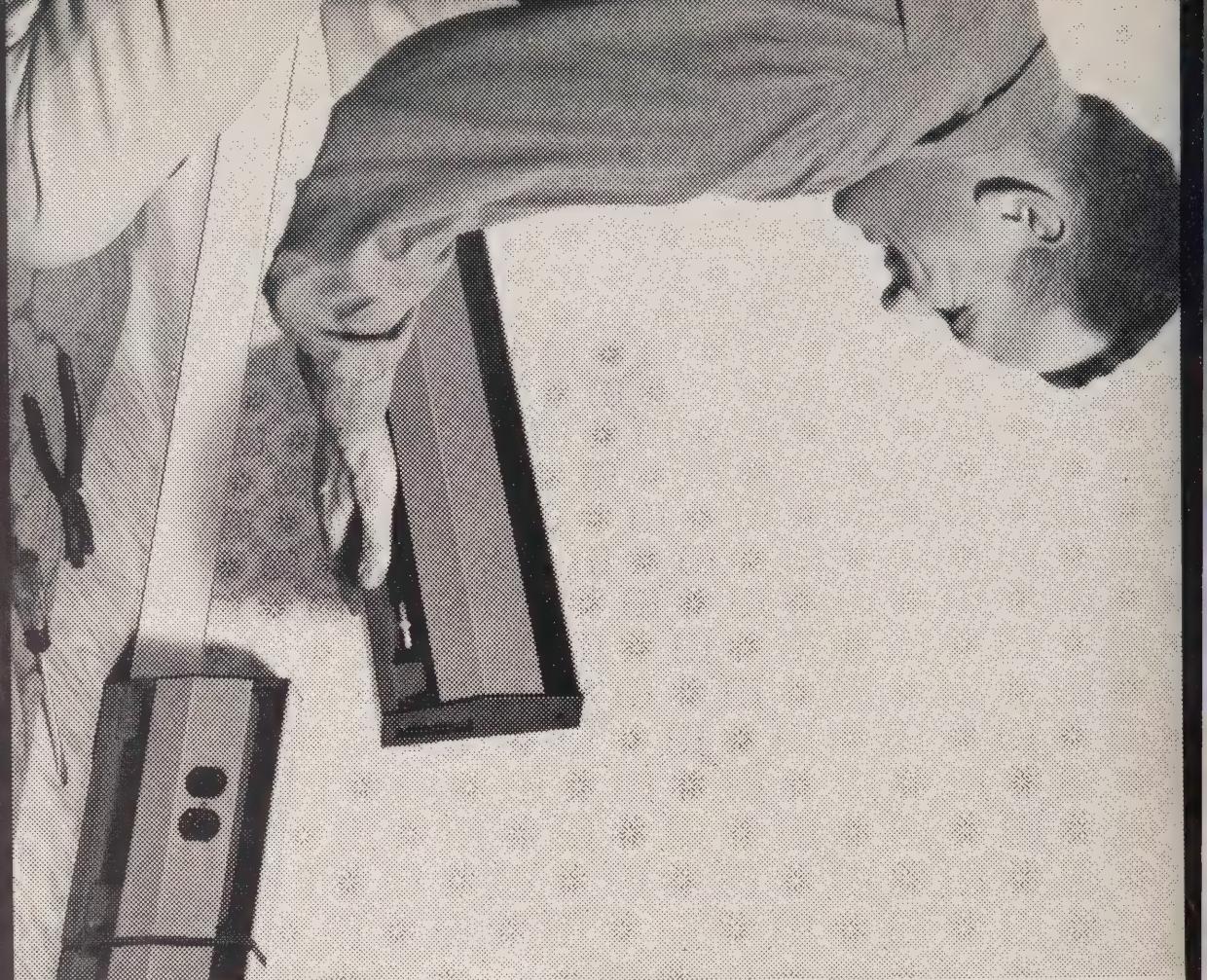
***Your hydro***

**LIVE BETTER ELECTRICALLY**

*LIBRARIAN DEPT TORONTO 10*

This is one of 17 advertisements prepared for the municipal electrical utilities

to assist in their local advertising programs. They feature a uniformity of layout designed to establish continuity and a "family" resemblance. Mats or stereos are available without cost from the Advertising and Marketing Services Department of Ontario Hydro.



ONTARIO

# HYDRO NEWS

NOVEMBER, 1963

"Shoal Shattering" on the Niagara is described on page six.



local, provincial and national level. It is in water control that Ontario Hydro plays its most important role in conservation. Through co-operation with the Department of Lands and Forests, Hydro maintains constant vigilance on scores of streams throughout the province, regulating levels through its power stations and storage dams within well defined and controlled limits.

These limits are not determined by power needs alone but by provincial, national or international agreements governing navigation, stream flows and other considerations which are judged to be in the long-term interests of the people.

As the Commission pointed out in a recent brief to the Conservation Advisory Committee, Ontario Hydro "is most conscious of the importance of conservation and, within its basic terms of reference of producing and supplying electricity, co-operates fully with authorities concerned with conservation. The brief noted, too, that "substantial benefits in the conservation sense" result from the construction and operation of its various works.

But the most effective assurance against waste of our natural resources is an informed and alert population. And only a major disaster, it sometimes seems, can jolt our lethargy in this regard. Take the case of Hurricane Hazel. From this onslaught of nature grew the Metropolitan Toronto and Region Conservation Authority—responsible for one of the most comprehensive and best known conservation schemes in the country.

It was with interest, therefore, that Hydro News learned of the Authority's latest move to make conservation better known to future community leaders and citizens through the establishment of the Albion Hills Conservation School.

Impressed with the pictorial account of the school brought back by our photographer on opening day when York Memorial Collegiate had the honor of providing the first class, we had a writer assess the impact of the school on the Grade X Science class from Toronto's Riverdale Collegiate which was the third group to make use of the new facilities. His impressions are recounted in the article on page four. ■

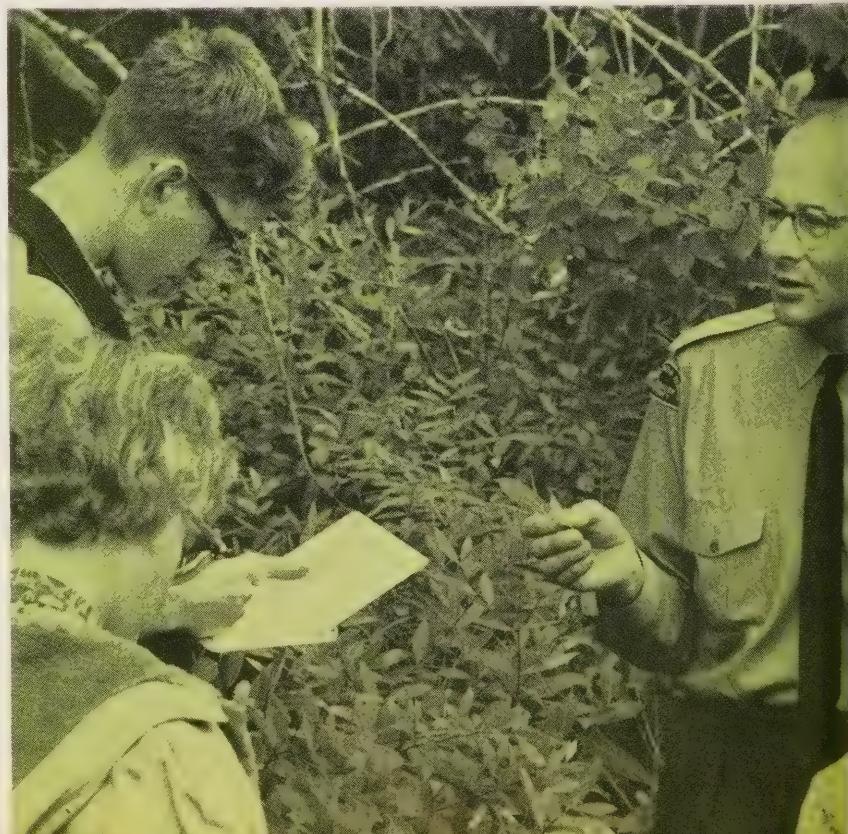
## FIRST CLASS IN CONSERVATION TAK

Staff photographer Harry Wilson accompanied this class from York Memorial Collegiate—first group to spend a week at the new Albion Hills Conservation School. Writer Bob McDonell interviewed a later class and his impressions commence on page four. Both wish outdoor classes in conservation had been on the high school agenda when they were students—away back when.



Comparing notes outside new Albion Hills Conservation School.

*There's a lesson in the leaves as naturalist Ken Strasser points out.*



# THE ALBION HILLS



*Then its off to the real classrooms — outdoors.*



*Stream life is a new world to most students.*

*It takes more than soft drinks and French fries to fill these teenagers after a day outdoors.*



# CONSERVATION

## A NEW DIMENSION

Earlier this fall I accompanied a group of Toronto teenagers on their indoctrination tour of a new and unique classroom.

The classroom is the 1,000-acre Albion Hills Conservation Area, the teenagers a Grade X Science class from central Toronto's Riverdale Collegiate, and the course of studies — "Outdoor Education".

The Albion Hills Conservation School, to give this new concept of education its full name, is an outgrowth of two movements.

In 1950, four Ontario schools — Pickering College in Newmarket, the Junior High School and Village School of Forest Hill, and the John Ross Robertson School, Toronto, joined to provide a camp school for a small group of selected boys. It was an attempt to do those things which can best be done outside the classroom using real objects in their natural habitat. York Memorial Collegiate, in co-operation with the Humber Valley Conservation Authority, undertook a three-day camp school for a complete Grade IX class and their teacher, in 1953.

The success of these and other experiments in this new type of instruction convinced educators of its value.

It was, however, the Metropolitan Toronto and Region Conservation Foundation which provided the funds to make a permanent school possible. Of modern design which blends into the natural background of the park-like Albion Hills, the school building includes kitchen and dining room facilities as well as dormitories for the instructors and a maximum of 40 students.

To Metro's Conservation Authority, of which the Foundation is an offshoot, the school is a good beginning in conservation education designed to develop knowledgeable leaders and citizens aware of the potential of the development and restoration of renewable natural resources through

the Metropolitan Toronto Region.

While it is too early to assess the full value of a week at the school to Toronto area students, certain benefits like enthusiasm, a better understanding of science, and better citizenship were evident to this writer during the indoctrination tour and subsequent interviews with the students in their home classroom.

To one long since out of school, the enthusiasm of the Riverdale class was infectious and enough to renew one's faith in the country's future. A more cosmopolitan group of students in one class would be difficult to find. But in spite of their Estonian, Greek, Lithuanian, Japanese, Italian, German, French and Anglo-Saxon backgrounds — all blended into an outlook unmistakably Canadian.

To blond, articulate Linda Lucas, it meant a better understanding of the role of the modern farmer in the community.

Nancy Ezaki thought that the school resembled the one her parents attended in Japan, where all city students spend a minimum of two weeks during the summer studying nature at the seashore, in the mountains, or on farms. In the case of Greece, Konstantin Vogis told us that outdoor classes, where nature is studied first hand in connection with science, take the form of day-long excursions to the fields and woods of the area and are commonplace throughout the year. In Estonia, and many other European countries, Marot Rommus said, the outdoor school has been in operation for many decades.

Following assignment of their rooms on the first day of the course, the students had lunch in the school's spacious dining hall, and then pitched into their assigned clean-up tasks. The students are responsible for the care and cleanliness of their rooms.

Led by the school's two instructors — J. D. Malcomson, a former Peterborough high school teacher who also

served on the staff of the Ontario Forestry Association, and Terry Carr, formerly resource teacher at the Toronto Island Nature School — the students broke into two groups to tour their classroom.

In addition to the two instructors and the class teacher, in this case John Christopher, of Riverdale, the staff is supplemented by teachers-in-training from the Ontario College of Education and all 12 Ontario Teachers' Colleges.

The steeply rolling hills of the Albion area, five miles north of the village of Bolton, provide large tracts of reforested land and a farm complete with buildings in operation to show good animal husbandry and proper land use. There is also a nature trail which traverses a wide variety of terrain where hundreds of species of flora and fauna are to be found in their natural habitats. Another interesting feature is a restored log cabin which depicts living conditions during the community's formative years.

For approximately half the class it was their first close contact with Nature — for the remainder, a rare opportunity to study in depth and in conjunction with their regular science courses, natural phenomena with which they had a passing acquaintance through scouting, summer camp and family outings.

In addition to the Albion Hills Conservation Area, the students spent part of their week studying other farms, flood control projects, local industries and the Glen Haffy fish hatchery. A bonus for the Riverdale group was the tour of the World Plowing Match at nearby Orangeville.

While most of the daylight hours are spent outdoors — the school attempts to study only those topics which can best be understood against their natural backgrounds. A period each evening is devoted to discussion of the day's activities supplemented by films, slides, and classroom wo-

# N EDUCATION

By Bob McDonell

directly related to these activities.

The Riverdale class was the third from Toronto region schools to make use of the new facilities but on the strength of their experiences, it is certain that the school is fulfilling its primary purpose of promoting a greater awareness of the need for conservation.

At the same time it is providing the students with a new experience in the world of learning, awakening new interests which may well prove vital to Canada's future.

This enthusiasm has manifested itself in many ways—the trips that the students have taken back to Albion Hills with their parents and other members of their families to share some of their newly gained knowledge... the class project which is recording the week's stay in word and picture... the increased interest in science.

Preliminary estimates suggest that the school costs about \$1,000 a week to operate. This is shared by the Board of Education and the Conservation Foundation and it would appear to be money well spent.

"I cannot look on this expenditure as cost", says Riverdale teacher John Christopher.

"It is an investment in the future. If it keeps one of these youngsters from being careless with our natural resources, thereby preventing a forest fire, or the experience helps one student keep out of trouble, the money saved will far outweigh any cost".

We cannot help but agree.

For the 50 classes from grade VII to XIII which will attend each year, it should be a memorable occasion. But the school is only a start in alerting the young people of Ontario to the urgency of conservation.

Through the involvement of the teachers' colleges it is hoped that enthusiasm in this new dimension in education can be spread to every community in the province. ■



*To help retain lessons learned in the field, Riverdale Collegiate students David Lamb, John Booth, Linda Lucas and Allana Langford participate in class project. In photo, below, Nancy Ezaki, foreground, and Marot Rammus, relate their experiences in conservation with those of their parents in homeland.*



# SHOAL SHATTERING



Harnessed for power but never tamed, the swirling Niagara River continues to challenge those charged with converting its energy to electricity. Seldom in Ontario Hydro's 46-year direct partnership with the river has there been a prolonged period without some form of work underway to improve flow dependability, and ultimately, production.

Latest phase in the long struggle is the blasting and removal, from above the falls, of 300,000 tons of shoal rock, which caused ice build-up and interfered with the intake of water to the power stations on both sides of the border during the winter. Being undertaken by Ontario Hydro with the Power Authority of the State of New York sharing the cost, the shoal removal has taken four months to complete.

During much of the summer and fall tourists were intrigued by thundering explosions hurling tons of submerged rock into the air amidst water plumes as high as 300 feet. They were part of the continuous drilling, blasting and mucking cycle employed to remove the shoals. With this part of the operation completed, the work force is racing against time to remove the mile-long, horseshoe-shaped cofferdam thrown up to embrace the site, before ice forms.

The project, outstream from the control structure and upstream

*Shoal-shattering explosions, top left, were an added tourist attraction at Niagara this year. Section where shoal was removed is shown, left, extending from international control structure and outlined by cofferdam.*



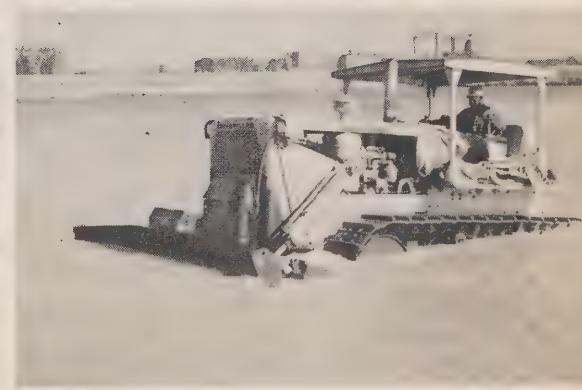
from Goat Island, is part of an international improvement program. The agreement under which it is being carried out assures the preservation of the beauty of the falls.

Although the water level inside the cofferdam was approximately five feet lower than the river, the work force of up to 135 men often drilled and laid explosives while waist high in water.

Rock fill for the cofferdam, which has turn-offs for trucks to pass, was waste material extracted from the intake tunnels of the Beck No. 2 Station during construction. Truck access to the cofferdam is along the international control structure, which is connected to the de-watered area by a ramp.

Holes as deep as five feet were necessary for the rows of explosive charges, set and timed to go off at millisecond intervals to improve fragmentation and as an added safety precaution. Seismograph records indicated little physical effect of blasting outside the enclosed area.

Another important phase of the river improvement program ended this summer with the completion of an additional five gates to the control dam. This 18-gate structure, jutting 2,000 feet into the river from the Canadian shore, helps control water levels and regulates the flow over the falls. ■



*Drilling in more difficult areas was carried out with jack hammers, top photo, while air-trac equipment, centre, was used elsewhere. Bulldozers and shovels removed shattered rock. About a pound of blasting powder was required per yard of excavation.*

*Hydro has been identified*

*by Paul Chisholm*

*with plowing contests in Ontario  
for half a century.*

# FAMOUS for their FURROWS

Gasoline fumes permeate the warm fall air. Tractors nudge into gear and move off parade fashion to staked-out plots of land. It's a tense moment even for the city dwellers who are there by the thousand. And the scene is a familiar one in any of the 21 countries which take part in competitive plowing under the auspices of the World Plowing Organization.

This particular tableau has as a backdrop, the golden hills of Caledon, seven miles south of Orangeville, and two days of plowing have already settled the Ontario and Canadian championships for 1963.

There are 33 tractors in the parade, and their drivers represent 18 countries as far afield as Norway and New Zealand. Each man has something else in common besides a rugged, weather-beaten face. He is either top plowman, or runner-up, in his homeland. Together, they represent the best of over one million plowmen weeded out in contests at local, county, provincial and national levels.

For the umpteenth time, experienced eyes squint over the lay of the land. The contestants wipe sweat from nervous palms, or make yet

another final adjustment to their plows.

A green flare roars into the air from the time-keeper's gun. Plowshares bite into a stubborn soil, much as they have done for four thousand years. The skill is mankind's oldest, but only for the past 11 years has it been pitted nation-to-nation.

A long list of rules govern the Olympics of farming. Basically, the competitor must plow straight, neat, narrow, shallow furrows and build a perfect crown; set up uniform, well-packed seed beds, bury all vegetation completely so it will rot quickly to provide organic fertilizer and leave drainage channels under the furrow.

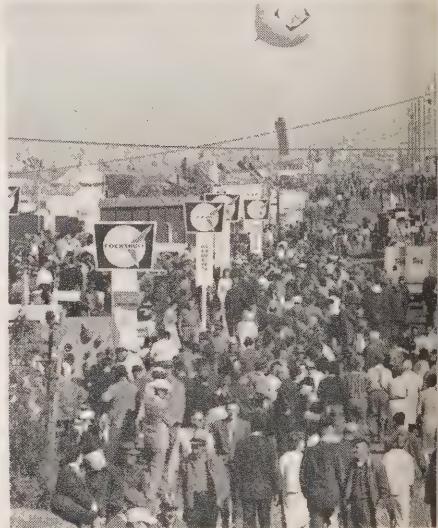
All this under the watchful eyes of 14 judges and stewards and thousands of spectators pressed behind



Oxen have long been replaced by efficient tractors on Canadian farms but this span, from Pioneer Village, northwest of Toronto, brought a touch of nostalgia to old-timers.



*Gay and gaudy "Tent City" was a strong counter-attraction to the actual plowing matches.*



barriers. Many of the on-lookers sport Western-style hats, and are armed with walking sticks and yard rules to prod and measure furrows and crowns when the task is completed.

Each competitor plows one plot (21 by 108 yards) of stubble land and one of grassland, on consecutive days. The grassland must be completed in three hours, the stubble in two-and-a-half. The plowman can alight from his tractor and adjust his plow any number of times, but to seek advice or be signalled by an on-looker means disqualification. Most competitor use their own plows, but the tractor of his choice is provided.

Nearby sprawls a 60-acre, carnival-like "Tent City" with a gay atmosphere combining a little of the CNE and a fall fair. The aroma of hot dog

Bennett, farm sales supervisor, Belleville, extolls benefits of 100 and 200 ampere outdoor farm service to a gathering of farmers at the Ontario Hydro tent.



International plowing match contestants make a colorful scene as they parade their way to their plots.

and french fries mingles with the fresh paint of gleaming farm machinery exhibits, in what is billed as the biggest outdoor agricultural show in the world.

The community exists no more, but to service it during its week of glory, Ontario Hydro provided facilities to supply 600 kilowatts—the approximate load of a 400-home subdivision. These included three miles of new line, 77 utility poles, 25 transformers, and the erection of 30 fluorescent fixtures, each with two lamps.

Hydro's association with competitive plowing dates back the 50 years that province-wide matches have been held in Ontario. For many of those years it has donated a prize to the winner of the 18-years-and-under category. This year the prize was

awarded to Robert Brown, R.R. 4, Galt.

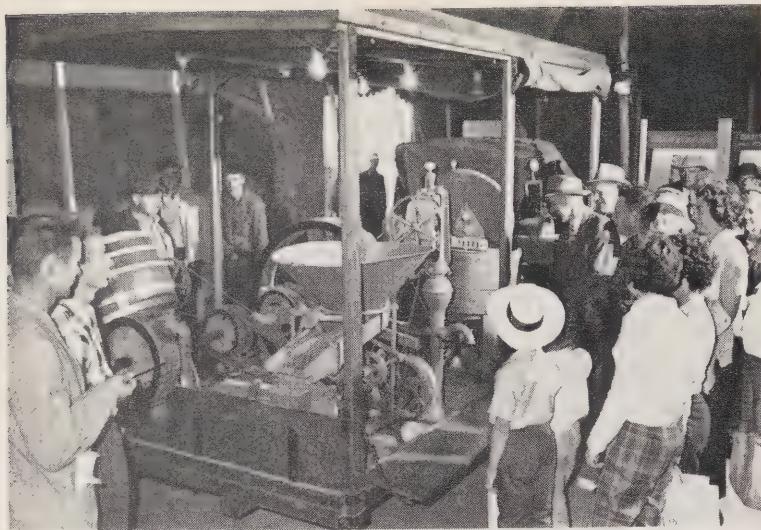
The plowing matches are regarded by Hydro's Farm Sales Department as one of the most important mediums of communication with farming people. Here farm problems can be discussed informally, and the Hydro representatives must attempt to answer the thousand and one questions related to electricity and agriculture which are sure to arise.

More than 160,000 visitors came to Tent City this year. They were enticed to Hydro's exhibit, the largest (100 by 70-ft.) display tent on the field, by carnival theme posters displayed throughout the grounds. Among the tent's biggest attractions was a display of all trophies up for competition.



Theme of the Hydro display was half a century of plowing and 50 years of Hydro's service to the farm. Exhibited just as it was at very early plowing matches in Ontario was the Sir Adam Beck "circus," taken out of the antique car museum at Niagara Falls for the occasion. The "circus" toured the countryside in the early days of Hydro to demonstrate the benefits of electricity on the farm, and includes a three-ton truck carrying equipment ranging from a circular saw to a washing machine. A wheeled transformer and a motor wagon, hauled by the truck or by horses, completed the caravan.

In contrast were exhibits of modern equipment which have helped make farming more efficient, and others which have eased the lot of



*The Sir Adam Beck "circus", which toured the countryside in the early days of Hydro to demonstrate the benefits of electricity on the farm, was a reminder of the past at the Hydro exhibit.*



*The Barr brothers from Northern Ireland presented something of an identification problem—but not for two chartered plane-loads of enthusiastic Irishmen who made the trip to Canada to lend moral support.*



*In another section of the Hydro exhibit, Grant Webber, supervisor, Farm Sales, explains how more little piggies per litter can get to market when they have had the benefit of electric floor heating.*

the farm housewife. These included heating methods for pen stocks, and barns, and water heaters for the home.

Elsewhere on the generally parched grounds, another Hydro tent undertook the tremendous task of supplying hot water to exhibitors, and particularly the church and social group restaurants on "Caterers Row". The demand for hot water for dish-washing, and to clean displays and tent interiors of the fine dust which swept the area, kept four, 50-gallon heating units in constant use. The tent was operated and manned by Area office staff.

It is probably true that some visitors were fully occupied in Tent City and didn't get to see any plowing. But the constant dust and growling of tractors was a reminder that this was, essentially, the plowman's week.

For the main part, the long hours of training that the plowmen put in for competition are the same hours that win them their livelihoods.

Stanley Willis, 47, a hearty Prince Edward Islander who operates 70 acres of mixed farmland near Cornwall, claims that the 1½ hours of formal training daily was a big factor in winning him the Canadian title.

The opposite view of training is taken by Northern Ireland's soft-spoken Hugh Barr, 37, three-time winner of the Golden Plow (symbol of top world plowmanship) who gave up competition to coach his two older brothers, and managed the team during the visit to Canada.

"The standards are almost professional at this stage," he feels. "All you can do is become familiar with the type of soil you will be plowing. Two or three days practice here is

more valuable than two or three weeks in your own country."

Brother Jack, 40, generally rated favorite to win the 1963 title, finished fourth. But only fractions of a point separated the top four plowmen. The event went to Sweden's Yngve Mansson.

The last of the overseas plowmen is now home again, after a brief tour of rural Canada. Tent City has reverted to open field.

An elusive candy wrapper drifts along what was—for one glorious week—brash Centre Street. But a little to the south can be found a permanent marker to the week that was.

Imbedded in a massive concrete globe which bears a bronze insignia of the World Plowing Organization is a piece of stone from each of the countries which took part.

After almost half a century of shared accommodation in the Town Hall, Orangeville Hydro has set up housekeeping in its own handsome new headquarters. Of specially designed concrete block and laminated wood beam construction, the \$36,000 office and service centre was officially opened recently by Ontario Hydro Chairman W. Ross Strike.

In addressing the gathering at the opening ceremonies, Mr. Strike noted that when Orangeville first became a Hydro municipality in 1916, residential customers used an average of 12 to 15 kilowatt-hours per month. They paid more than seven cents per kilowatt-hour. He was pleased to point out that customer consumption had since climbed above 500 kilowatt-hours per month and that the rate had dropped to about 1.2 cents. He drew attention to the close relationship which exists between the cost of power and the per capita use.

Delving into the area's past, Mr. Strike observed that the new building stands on the site of Orangeville's first electric power plant, established in 1882. This power was used to operate a planing mill and casket factory and was fueled by the wood shavings and scrap from the mill. Later, the same businessman supplied electricity to the town.

In a brief message during the opening ceremonies, Mayor Harry Tideman congratulated Orangeville Hydro Chairman Donald Watt and Commissioners Donald Patterson, William Gillespie and John Dawson on the fully equipped office, garage and service facilities they had helped place at the disposal of Manager Carl Johnson and his staff of seven. He said the fine, electrically heated centre would enable them to provide the utility's 1,800 customers with even better service.

Orangeville Hydro's average monthly peak load has grown from 62.6 kilowatts in 1916 to 3,422 kilowatts in 1962.

## ORANGEVILLE HYDRO ON THE MOVE



Standing in front of Orangeville's new Hydro headquarters after opening ceremonies are, from left to right: Mayor Harry Tideman; Ontario Hydro Chairman W. Ross Strike; Orangeville Hydro Manager Carl Johnson and Commissioners, John Dawson, Donald Patterson, Donald Watt and William Gillespie, who has served as an Orangeville Hydro Commissioner 22 years.

# RETIRED BUT NOT FORGOTTEN



The casualties of progress are frequently the historic and the quaint—symbols of the past which, to the generation concerned, were somehow just a little more romantic than what the present has to offer.

And so it is with the older of the hydro-electric plants of the province. While most of the pioneer stations in the Hydro system have been rejuvenated in the past decade and are still giving faithful service—others stand in mute testimony to an era gone forever. For them, economics have ruled out the question of rehabilitation or redevelopment.

Even when fashioned from the stoutest of materials by the most skilled hands so as to withstand the ravishes of time, generating stations, like ships or shoes or sealing wax, can become obsolete.

At the time of their construction, the earliest plants, with an output of a few hundred kilowatts, were able to supply the electrical requirements of two or three towns and the surrounding area. Today, with the outstanding increase in the per capita use of electricity—the entire output of such a plant might be required by a single all-electric motel.

In the words of Robert Boyer, 2nd vice-chairman of Ontario Hydro, "Old methods and engineering concepts have had to be discarded. From

time to time, smaller and older stations, for reasons of economy and efficiency, must be retired."

Understandably, then, in an era of giant interconnected power grids, 300,000-kilowatt steam generating units and nuclear-electric power, some of the tiny old stations of the past are no longer useful. But retirement isn't necessarily synonymous with oblivion, as in the case of three small stations in the Muskoka area where output no longer warrants the cost of operation.

Marker plaques recalling their histories and the roles they played in the development of the area were unveiled at ceremonies this fall and summer. They will perpetuate the significance of the sites should the buildings themselves disappear.

Most symbolic of the three old-timers is the plant at Wasdell Falls on the Severn River, which was the first constructed by Ontario Hydro. From this rather humble beginning, the Commission went on to develop engineering and construction forces which have since been responsible for some of the greatest hydro-electric developments in the country.

Built to meet the electrical requirements of several communities on the eastern shore of Lake Simcoe, the 750-kilowatt plant, north of Orillia, was retired from service in 1955. A

highlight of the opening ceremony, in 1914, was the preparation of toast on an electric toaster powered from the new source.

It was fortunate that the engineer responsible for the construction of the Wasdell Falls plant was able to attend the unveiling of the plaque which was presented by the Historic Sites Board of Ontario. He is Dr. Otto Holden, retired chief engineer of Ontario Hydro and recognized as one of the continent's foremost hydro-electric engineering authorities. He recalled with satisfaction that the Wasdell Falls station operated for the full period of the sinking fund and became inoperative, not because of physical weaknesses, but because of



## *Plaques mark sites of three Hydro plants discharged from service with full honors.*



*Responsible for construction of Wasdell Falls G.S. half a century ago, Dr. Otto Holden speaks at ceremony commemorating the development. Others in gathering, left to right, are: Dr. Wilfrid Jury, Historic Sites Board (behind lectern); Robert Boyer, 2nd vice-chairman, Ontario Hydro; Hon. James N. Allan, provincial treasurer; W. Ross Strike, chairman and Lt. Col. A. A. Kennedy, commissioner, Ontario Hydro. The station, far left, was retired in 1955.*

the high cost of production compared with larger and more modern plants.

Another honored guest at the unveiling of the plaque was Redvers Wasdell, a member of the family after whom the falls were named.

Older as a power source is the Muskoka River site of Bala No. 1 Generating Station, west of Bracebridge. Pioneer Tom Burgess built a timber dam and waterwheel there in the 1880's to power a sawmill. He encouraged others to settle and join him in establishing the community. A general store he founded still bears his name.

His son, Dr. Tom Burgess, known in his day as the "flying doctor" for his ability to cover the countryside

in a speeding gig and, later, in an auto, calling on patients, was the first Hydro Commissioner in Bala, as well as the town's first mayor.

The old waterwheel was abandoned in 1910 and, seven years later, the Bala Electric Light and Power Company opened the 245-kilowatt plant to supply Bala, Port Carling, MacTier and the surrounding country. Acquired by Ontario Hydro in 1929, this pioneer station was retired in 1957.

Three of Dr. Burgess' daughters were present at the unveiling of the commemorative plaque which was donated by Ontario Hydro. It was erected in a tiny park established for this purpose near the station site.

A third plaque was erected earlier in the year at Burk's Falls, north of Huntsville. It commemorates a 245-kilowatt development on the Magnetawan River, which had its origin in 1885 as a power source for local woodworking industries. It was purchased by Ontario Hydro in 1950 and served for another decade before retirement.

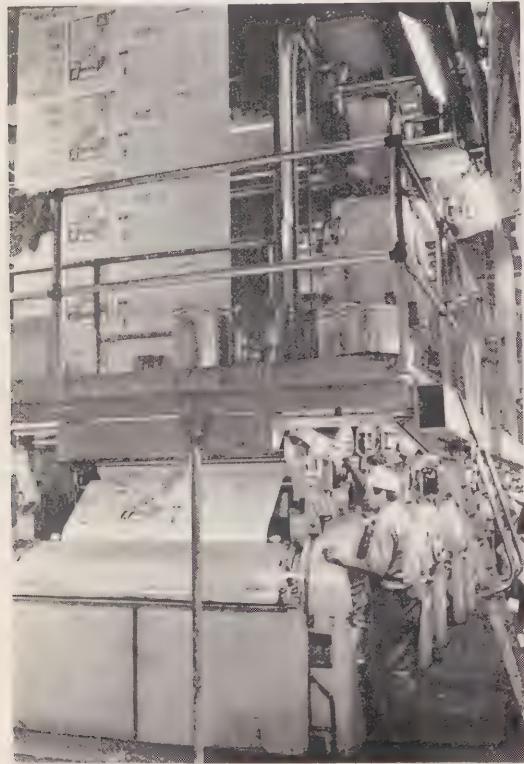
In a business which is devoted to the supply of electric power at the lowest possible cost consistent with good service, sentiment must give way to progress, but it seems only fitting that these pioneer hydro developments should be assured of a lasting place in the memory of a people they have served for so long. ■



*In scenic setting on Muskoka River, Robert Boyer unveils plaque marking nearby site of old Bala plant. Group includes the daughters of Dr. Tom Burgess, pioneer Bala Hydro Commissioner. Insignificant by today's standards, the Bala plant, far left, had a capacity of 245 kilowatts.*



*High-level lighting also helps heat this ultra-modern newspaper plan*



*Presses can produce 180,000 newspapers hourly.*

*Designed to perform the specialized job of producing a big city daily newspaper, the new Telegram plant in Toronto was designed with efficiency in mind from executive suites to the loading platforms. Photos suggest multiple uses of electricity throughout the building.*

*Presses are fed huge diet of Canadian newsprint.*



*Busy newsroom boasts many features to increase efficiency*



# THE TELEGRAM goes ELECTRIC



Automatic central control installation constantly adjusts heating and cooling system to climatic conditions and assures the most economical use of electricity.

Everything from the lights to the occupants' bodies help heat this modern newspaper plant.

A slight earth tremor and the muted roar of presses which has characterized the corner of Bay and Melinda Streets in downtown Toronto for generations subsided for the last time on Thanksgiving Day weekend when huge vans edged up to the curb in an operation which had been several years in the planning.

The Toronto *Telegram*, one of the city's two daily afternoon newspapers, was on the move—relinquishing its old stand where it had reigned down the years as the "Old Lady of Melinda Street"—for a new and ultra-modern plant on Front Street near the Lake Ontario waterfront.

Scarcely a mile in length, the short move encompassed a history that reaches back to 1876 when John Ross Robertson announced that he was establishing "a new and independent evening journal; a newspaper, not an organ." He coupled this with the ringing declaration that "it will have no patron but the public."

Seeing to it that every edition of the newspaper appeared on schedule in spite of the move, a bronze bust of the founder went along with the movers to take up an honored niche in the new headquarters.

And Mr. Robertson would have approved of the change-over. Sixty-five hours after the old Melinda Street presses had ground to a final

halt, three new nine-unit presses, each capable of 60,000 newspapers an hour, were turning out the first edition from the new location. The complex news-gathering services of one of Canada's largest dailies carried on without interruption.

When the first issue of the *Telegram* hit the streets of Toronto 96 years ago, the staff consisted of 21 men and two boys. The full-time staff occupying the new building, composed of three connected structures, numbers 1,300. The \$5.5 million building is described as being contemporary—functional, designed to do the specialized job of producing a newspaper.

All-electric and incorporating the latest developments available in a number of fields, the new plant has no boiler room, no fuel storage, no combustion equipment, and no smoke stack. And the building boasts one of Canada's largest heat pump installations—an air conditioning system which handles climate control throughout, while at the same time utilizing or storing heat from all interior sources.

In summer, the system will be used for air conditioning and humidity control. The same system is used in winter to reclaim and circulate what is normally waste heat generated by presses, machinery, lights and even the building's occupants.

#### Heat Sources

Exhaust air	-----	21%
Lighting	-----	20%
Occupants	-----	7%
Presses (operating 4½ hours daily)	-----	11%
Other equipment	-----	11%

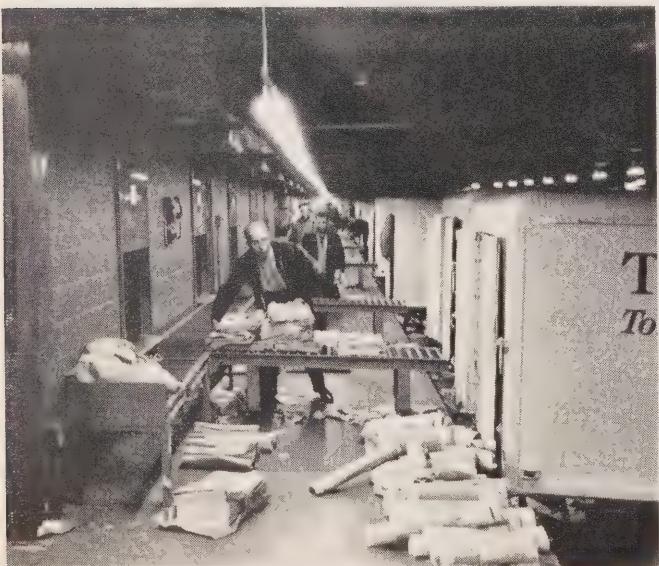
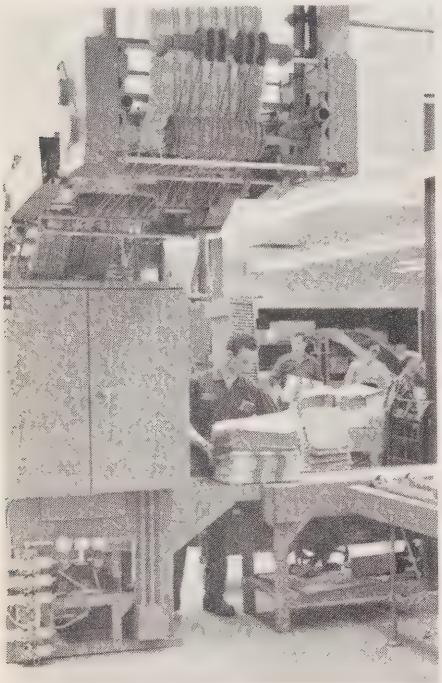
Water warmed to about 55 degrees Fahrenheit by these interior heat sources is fed through reclaim coils to a refrigerating installation consisting of three 450-ton hermetic-type water chillers, each driven by a 455 h.p. motor. The water is cooled to 40° F. The 15° heat loss passes into a liquid refrigerant flowing in the chiller tubes, and the liquid turns to gas.

A compressor then takes over and raises the 40° F. gas at 5 psi to 115° F. under 15 lb. pressure. The gas condenses on tubes in the condenser, giving up the heat to water which is circulated throughout the building.

Surplus heat is stored as hot water in four insulated underground tanks with a capacity of 75,000 gallons. The water is pumped automatically, as required, to a penthouse equipment room atop the building and from there is distributed through the building's heating system.

A self-contained supplementary electric boiler provided primarily for use in extreme weather, or during office shut-downs, may also be used

*Automation continues down to mailers who bundle newspapers conveyed to them from folding and cutting department above.*



*Trucks take over from here and distribute papers throughout metropolis. Circulation exceeds 285,000.*

to heat up the thermal tanks at night, when off-peak power is available. Resistance heaters have been installed in the central system in a few critical areas.

A fully automatic central control installation constantly adjusts operation of the system to climatic conditions, and sees to it that the system makes the most efficient use of electricity. The centre, known as the Supervisory Data Centre, keeps an electronic eye on all operations and conditions throughout the building, from the operations of the electrical power distribution system to fire-watching duties.

The tanks used to store heat in the winter have a reverse function in the summer, when available surplus refrigeration capacity is stored at night in the form of cold water—again taking advantage of off-peak power rates—and used later at daytime peaks. This reduces the peak electric power demand for refrigeration, the size of the refrigeration plant needed, and operating costs.

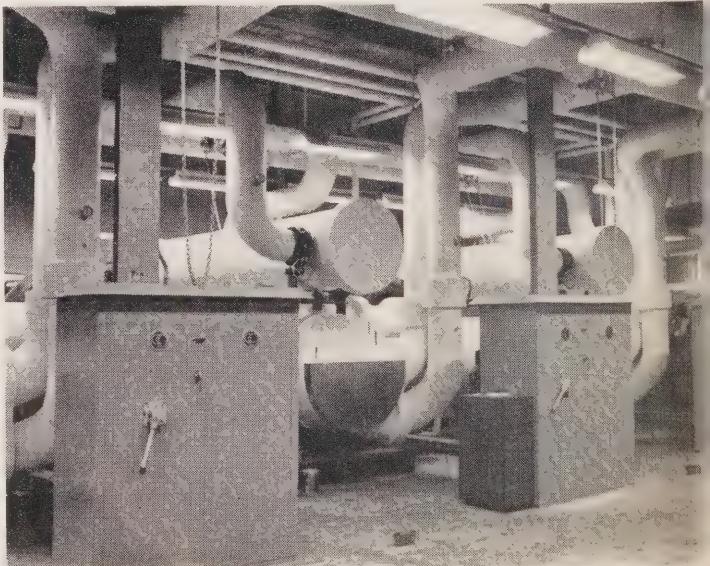
"Our staff is guaranteed ideal weather the year 'round," says a Telegram executive—"at least in the building. The temperature will be between 72 and 75 degrees at all times, and the system will maintain balanced humidity."

Temperature and humidity in the sensitive press, reel and paper storage areas can be adjusted independently.

The old conception of the newspaper press room as a world of noise and acrid smells, peopled by men in ink-splattered coveralls, is no longer valid as far as The Telegram is concerned. The Hall of Presses, as the pressroom area is formally known with its ceiling rising 40 feet above ground level, is as antiseptic in appearance as the air is pure—the latter, thanks to a fan and filter system that directs 180,000 cubic feet of washed air per minute through the area.

The principle of the heat pump is about 100 years old. It was in use in at least one building in Los Angeles in the late 1920's, and in 1930 was applied to the heating of the City Hall of Norwich, England. Ontario Hydro applied the principle in the Robert H. Saunders-St. Lawrence power house, using cooling water from the generators as a heat source.

With such factors as automation, improved lighting systems and the growing use of computing equipment providing increased internal heat, engineers and contractors expect resurgence of interest by commerce and industry in the heat pump principle in the next few years. Certainly, from the Hydro point of view, this dual purpose summer and winter weather-conditioning system approaches the ideal, insofar as load characteristics are concerned.



*Cold water from this refrigeration plant can be stored in summer to take advantage of off-peak power.*

# HYDRO IS THEIR BUSINESS

*Members of the Ontario Municipal Electric Association from many parts of the province meet at the District level to discuss problems of vital interest to the welfare of the Hydro enterprise.*

## Ontario Hydro Chairman Reports to the Districts

Ontario Hydro Chairman W. Ross Strike has been setting a hectic pace these last few weeks bringing delegates up to date on Hydro developments at seven annual district meetings of the Ontario Municipal Electric Association from Cochrane to Port Arthur and from Brockville to Sarnia.

Particular interest was focused on Mr. Strike's address at the District 8 meeting in Sarnia when the Hydro Chairman discussed a proposal to construct a one-million kilowatt thermal-electric generating station in Southwestern Ontario to meet the continuing rapid growth of electrical demands in that area.

Mr. Strike revealed that a number of sites in the London-Windsor-Sarnia area are being investigated. Arrangements are underway, he said, for studies and soil investigation tests on a property near Court-right on the St. Clair River.

The speaker also announced that

the London Public Utilities Commission had indicated that a site at Port Stanley on Lake Erie, which formed part of the London and Port Stanley Railway properties, is also available.

Several engineering and economic factors are of over-riding importance in determining the location of large thermal-electric plants, Mr. Strike explained. He said site characteristics were fairly common to both coal-fired and nuclear plants. Under present procedures, a nuclear plant site could only be determined with the approval of the Atomic Energy Control Board.

Major considerations included a substantial cold water frontage and solid foundation conditions. A waterfront site was essential for the necessary pumping and discharge structures associated with the cooling water requirements of such stations. A thermal plant must also be located in close proximity to rail-

way facilities and main transmission lines, as well as in an area with substantial power consumption and anticipated load growth, Mr. Strike said.

Construction of larger, coal-fired generating units with individual capacities of 500,000 kilowatts was also forecast by the speaker. At the same time, he said that continuing studies and experience in the design and operation of nuclear-electric plants offered grounds for confidence that nuclear units would be slightly cheaper to operate than the conventional type of thermal units in the near future.

Dealing with the duties and responsibilities of individual utility commissioners, Mr. Strike stressed that many new challenges are facing these important officials.

In terms of electrical output and use, the Hydro organization is "tops", he declared. "But we are being watched, and we must start to act like 'pros'".

## Sarnia Meeting Proposes Consolidation Study

Two important resolutions submitted by Sarnia Hydro-Electric Commission received delegate approval during the 19th annual convention of District 8, Ontario Municipal Electric Association, at Sarnia.

The first resolution proposed that Ontario Hydro and the AMEU study and recommend a procedure for indicating the continuous current rating on the nameplate of such electrical items as service entrance

switches and distribution panel boards.

It was pointed out that certain pieces of electrical apparatus will not withstand continuous loading at their nameplate current rating and that failure of such equipment, due to continuous loading, has occurred in certain instances.

Delegates also gave formal assent to another Sarnia motion calling for executive study of the feasibility of

consolidating the Electric Service League of Ontario, the Electrical Bureau of Canada and the Electric Heating Association of Ontario into one overall organization.

The resolution claimed that membership in the three organizations is drawn from many of the same sources, including manufacturers, the OMEA and AMEU so that there appeared to be considerable duplication of effort and expense. (continued)



These executives will represent District 1 in 1963-64. From left: R. E. Knox, Peterborough, director; E. J. Bryant, Whitby, past president; W. Boddy, Oshawa, 1st vice-pres.; Dr. R. H. Hay, Kingston, president; Dr. J. L. Walsh, Perth and J. R. Phillips, Brockville, directors; and L. A. Waddell, Lindsay, 2nd vice-pres.



Ronald Taylor, St. Catharines, seated, left, was elected chairman of the 1964 conference, Western Division, Accounting and Office Administration Committee. Beside him is Charles Kew, London, vice-chairman of the 1964 conference. Standing, left to right, are: John Horsley, Burlington, program co-chairman; E. Frantz, Ontario Hydro, sec.-treas.; John Coubrough, Hamilton, conference chairman; and Robert Ion, Brantford, program co-chairman.



Re-elected for a second term at Seaforth annual meeting, District 6 executive includes, from left, seated: H. O. Hawke, Galt, honorary vice-president; H. M. Scheifele, Waterloo, 1st vice-president; J. Fred Edwards, Palmerston, president; S. J. McEwen, Palmerston, secretary-treasurer. Back row: Directors G. D. Sills, Seaforth; W. J. Isaac, Mitchell; O. J. Little, Preston; M. Fisher, Galt; G. A. Shepherd, Elora; W. J. Mills, Goderich and S. Lipphardt, Harriston.

"It would appear that a more efficient and economical arrangement of staff would be possible if a combined effort were made by the organization," the resolution tended.

The Sarnia resolution also indicated that the constitution of a new consolidated organization drafted to "encompass the various aims and objectives of the existing

## Historical Exhibit Plans Outlined at Brockville

An all-out effort on the part of the District 1 executive and convention committee attracted the largest turnout ever to the annual meeting of the Eastern Ontario Municipal Electric Association, held this week at Brockville.

Crisp, clear fall weather gathered some 200 delegates from the majority of the 85 municipalities within the triangle bounded by Brockville and Lindsay on the west, the Deep River and Cornwall on the east.

Business sessions during the day meeting matched the week in interest and spirit with the final session drawing a full house.

"Enthusiasm of delegates at the meeting," said Ted Dash, president of the parent OMEA, "is an excellent sign for the future of electric utilities in Eastern Ontario."

## London Accounting Conference Examines Work Simplification

Delegates attending the 31st annual Western Ontario Accounting and Office Administration Conference in London during September took a close look at the importance of simplification, under the guidance of F. A. Galbraith, Management Services Division, Ontario Hydro.

One of the primary steps in improving work methods is to determine the operations where bottlenecks are occurring or where there is a waste of time, material

## District 6 Talks Emergency Measures

Municipal Hydro commissioners representing some 30 utilities in an area roughly bounded by Galt, Palmerston, Guelph, Galt and Stratford gathered in Seaford recently to discuss subjects ranging from load building and power generation to safety and the utilities in the disaster planning of the Emergency Measures Organization.

Speaking at the annual meeting of District 6, Ontario Muni-

groups" and that the new organization be controlled by one board of directors, which would "correlate all of its various phases of activity."

After lengthy consideration delegates turned down another proposal that electrical utilities take over the ownership of residential service equipment in order to encourage the greater use of electric energy among domestic customers.

Changing conditions, Mr. Dash continued, made it imperative for local commissioners to attend working meetings of their association at the district and provincial level.

Power costing and rates were topics of prime interest, and overflowed the two scheduled sections of the program into the general discussion periods. Of particular interest was the discussion concerning the municipalities' share of the capital structure of Ontario Hydro.

The success of load building in Deep River, which increased average consumption per residential customer by over 100 kilowatt-hours a month in a two-year period, was explained by manager Bob Spence. The main ingredient, he said, was co-operation between the commission and management.

Resolutions calling for a re-

A supporter of the proposal, Harry Foy, manager-secretary of the Electric Service League of Ontario, pointed out that, in many cases, the service entrance equipment in residential premises is inadequate to carry additional load.

"If the utilities owned that service entrance equipment", he said, "it would go a long way toward improving the wiring in older homes,

thus enabling the tenants to use more electrical appliances."

Commenting on the proposal, District president John T. Barnes said that estimates prepared by Sarnia Hydro-Electric Commission indicated that the cost of changing some 2,300 two-wire systems in Sarnia to 100-ampere three-wire services would be approximately \$400,000. "And we can't afford that."

examination of low tension transmission costs and standardization of meter boxes were considered and approved. Delegates also discussed the cost of promotion. While it was generally agreed that promotion costs should be recoverable in increased revenues over the first year, it was thought that methods of determining the amount to spend must depend on local conditions which varied widely.

Lt.-Col. A. A. Kennedy proposed that District 1 set up a committee to organize the collection of historical electrical equipment for use in depicting the contribution of early electrical pioneers to the progress of the province. Similar proposals made by Col. Kennedy at district OMEA meetings throughout the province met with the same enthusiastic response.

During the discussion, a panel chaired by Col. Kennedy pointed out that preliminary work over the next two years would be directed primarily to the collection and refurbishing of historical apparatus contributed by all branches of the electrical industry as well as private donors.

It was emphasized that it was the intent of the central committee to make mobile displays from the collection available for exhibit at Hydro anniversary celebrations as well as at other suitable observances sponsored by civic groups, service clubs and schools.

Dr. R. H. Hay, Kingston, was elected president of the district association, the unanimous choice of delegates. Vice-presidents elected were W. Boddy, Oshawa, and L. A. Waddell, Lindsay.

energy, he said. In certain cases, it was possible to eliminate an operation entirely.

"Too often we spend time making a procedure more efficient only to find out later the procedure is not necessary at all."

On the other hand, every phase of the "necessary" operations should be analyzed to determine whether all work is flowing in one direction and whether there is too much handling — "60 per cent of the cost

of every manufactured article is caused by handling during manufacture," the speaker said.

Mr. Galbraith also advocated studies to ascertain the possibility of combining certain operations. In many cases, it was possible to eliminate transportation, inspection, delay and storage between two operations. In other cases, transportation when combined with an operation — such as mixing concrete enroute to a construction site — could save val-

able time and money.

The speaker also stressed that employees who are to be affected by a change in operations or methods should be encouraged to participate in all the steps from choosing the job to be improved to working out and deciding on the new method. He said: "People adjust to change more easily if they understand the reason for it, and feel less threatened if they have some part in planning the change."

trained in emergency procedures.

Every local Hydro system in a disaster area would be involved, the speaker said, and he specified the maintenance and protection of power facilities, provision of emergency power sources and priority of electrical distribution as some of the areas where their assistance would be required.

Mr. McFadden urged the utility representatives to organize special

groups for emergency purposes, to designate specific employees to particular duties, and to strengthen liaison with the local EMO organization.

Delegates approved a resolution put forward by Listowel PUC that the parent OMEA body be asked to consider including a paper on emergency measures planning for presentation at the annual meeting, and that the subject be included on the

Electric Association, Murray McFadden, Perth County EMO co-ordinator, acquainted delegates with the basic aim of the organization in Ontario which, he said, was to avoid unnecessary loss of life and to assure continuity of government in the face of a large-scale disaster. At the county level, he said, the objective was to make best use of the existing facilities of the municipalities and to organize groups



Recently retired after 38 years association with the Galt commission, Harvey Hawke, centre, is honorary vice-president of District 6. He is shown registering with the recent annual meeting in Seaforth with M. Fisher, left, and D. N. Durward of the Galt utility.



Follow the leader seems to be the motto of District 7 executives as they step up behind R. S. Sheppard, Aylmer, re-elected president. Left to right are: P. R. Locke, St. Thomas and H. R. Henderson, Woodstock, directors; L. W. Smith, Tillsonburg, 2nd vice-president; W. C. Pearson, Strathroy, 1st vice-president; R. G. Campbell, Embro and C. A. Love, Ingersoll, directors; S. R. McBrien, Aylmer, secretary-treasurer.



Members of new District 8 executive who were elected to office, October 31, display symbols in keeping with the date. Front row, left to right: Roy Warwick, Blenheim, 1st vice-president; J. T. Barnes, Sarnia, past president; L. F. Duby, Amherstburg, president. Back row: M. J. Brian, Windsor and A. E. Stirling, Chatham, directors; F. A. Bridle, Amherstburg, secretary-treasurer; Edmund Cecile, Riverside and F. G. Tigwell, Point Edward, directors.

agendas of district meetings.

Delegates also agreed that PUC should draft a resolution on subject of subsidized low cost heating and the methods employed to heat these projects. It was felt electric heating was not receiving due consideration.

At the recommendation of the nominating committee, the slate of officers was returned for a second term. J. Fred Edward M.P.P., Palmerston is president. H. M. Scheifele, Waterloo and Moffat, Listowel, continue as presidents.

Some concern was expressed in a panel discussion on building that the enthusiasm of individual commissioners to promotion might be petering out.

## Office Group Hears Public Relations Talk

## Power Costing Featured on St. Thomas Agenda

Public relations as they affect utility representatives entail the application of "a smattering of psychology to that much talked-aboutmodity, common sense."

That was the opinion expressed by Ronald Hutton, assistant supervisor of public relations and advertising for the Bank of Nova Scotia, who addressed some 200 delegat-

Some 100 delegates representing electrical utilities in the four counties of Western Ontario attended the annual convention of OMEA District 7 at St. Thomas this year.

The well-attended meeting included a panel discussion on public relations with W. C. Pearson, Strathroy, capably filling the rôle of moderator.

Presenting the management's view on public relations, W. C. Davis, Exeter, expressed the opinion that the success of an electrical program is dependent on good public relations; and one of the important requirements for establishing good relations is "a co-

## District 8 Elects L. F. Duby President

Registration of delegates representing Hydro utilities in the four counties of Kent, Essex and Huron surpassed the 100 mark at the 19th annual convention of District 8 OMEA held at The Village, Point Edward, on Sarnia's outskirts.

The one-day gathering featured discussions on a variety of elec-

Among the recommendations suggested was that three per cent of revenue should be allotted to promotion and that one salesman for every \$300,000 of revenue might be considered a good rule of thumb for the assignment of staff. In this latter regard, the possibility was discussed of sharing the services of a sales representative among a number of small utilities, who would share the expense in proportion to the demand on his services.

Taking up the load building theme as guest speaker at the annual banquet, Ontario Hydro Chairman W. Ross Strike, stressed that peak loads were bound to increase and that higher rates would follow if the "valleys" created were not filled. He said that the problem was com-

mon to every electrical utility on the North American continent—"not something Ontario Hydro dreamed up to enable us to build more and bigger plants.

"Just remember in your load building efforts," Mr. Strike concluded, "your product is tops. It is the most flexible energy known to man and we are only on the threshold of development in this field."

"Exasperating" was the word used by Harry Flack, manager of the Electrical Utilities Safety Association, to describe the utility safety record "considering that we have it in our power to prevent accidents". He said 28 serious electrical accidents over the years were directly attributable to non-observance of a single rule—that limiting approach

to energized apparatus before donning rubber gloves. In urging strict adherence to the rules, he told delegates: "You are paying the salaries and you can see to it that the rules are carried out."

Since purchased power usually constitutes from 60 to 70 per cent of a utility's operating cost, delegates to the District 6 meeting paid close attention to an address by D. B. Ireland, director of Consumer Service, Ontario Hydro, when he used layman's terms to review power costing methods. He revealed that a close analysis of these methods, being carried out by Ontario Hydro in the light of changing conditions, was about complete. He said the whole matter would be referred to the OMEA sometime next year. ■

the recent AMEU Western Ontario Accounting and Office Administration Conference, at London. Mr. Hutton was guest speaker at the luncheon which climaxed the two-day gathering.

Mr. Hutton's suggestions for improving a utility's relations with its customers and the public included:

1. Assure that every employee

adopts a polite and congenial attitude and presents a well-groomed appearance;

2. Cultivate the ability to remember customers' names;
3. Take a deep, sincere interest in customer complaints — avoid arguing;
4. Pay close attention to good correspondence — check spelling and

English usage closely — avoid cliches and technical phrases;

5. Create friendly atmosphere and indicate desire to be of service during telephone conversations.

"Each time you confront an outsider, be it on the telephone, in a letter, over the counter or at a football game, whatever you say or do reflects on your organization." ■

ous supply of electricity at a reasonable cost.

"A milkman would never sell you a bottle unless he had milk to put in it. Let's be sure our services are adequate," Mr. Davis urged.

Delegates received helpful information on the subject of wholesale power costing from D. A. Ramsay, Ontario Hydro's recently-appointed municipal service engineer.

The speaker utilized an artist's conception of a basic power system to illustrate his references to the facilities included in the main costing functions. Copies of a sample year-end cost statement were distributed to assist delegates in following discussion of cost items.

In concluding his review of the functional method, the Ontario Hydro engineer told his audience that "a task group in the Commission's Comptroller's Division has been engaged in a thorough examination of the costing of power principles and procedures.

"When firm recommendations can be made the whole matter will be referred to your association for subsequent approval by your executive before any revisions are implemented."

Featured speakers also included Ontario Hydro Commissioner, Lt.-Col. A. A. Kennedy, who called for the formation of a district historical committee to participate in assem-

bling historical equipment for future displays. Greetings from the OMEA and AMEU were extended by Presidents E. C. Dash and John Torrance followed by a report on Municipal Hydro-Electric Pensions and Insurance Committee activities by Chairman P. R. Locke, St. Thomas.

Members endorsed the stewardship of their 1963 executive committee by unanimously re-electing them to a second term. R. S. Sheppard, Aylmer, is president, while W. C. Pearson, Strathroy, remains 1st vice-president. L. W. Smith, Tillsonburg, a 1963 director, was elevated to the position of second vice-president. ■

problems ranging from utility ownership of residential service entrance equipment to the formation of a district historical committee.

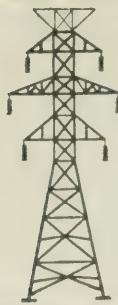
With President John T. Barnes in charge of the morning and afternoon sessions, delegates heard greetings conveyed by OMEA President E. C. (Ted) Dash and AMEU Presi-

dent John Torrance. Pensions and insurance were briefly discussed by P. R. Locke, St. Thomas, chairman of the Municipal Hydro-Electric Pensions and Insurance Committee.

Delegates were welcomed by Sarnia Mayor H. T. Ross and Point Edward's Reeve Stanley Campbell during the luncheon which conclud-

ed with an address by C. W. Ness, manager of advertising and sales promotion, Fiberglas Canada Ltd.

A highlight of the meeting, the election of officers, saw L. F. Duby, Amherstburg, named District president. Roy C. Warwick, Blenheim and M. J. Brian, Windsor, were elected vice-presidents. ■



# along hydro lines

## Beyond The Profession



A plaque commemorating the "Second Mile Engineer" award was unveiled recently by Dr. R. L. Hearn, former Chairman of Ontario Hydro (left) in the Galbraith Building, University of Toronto. He was assisted by Roy Gross (right), chairman of the 1935 class of graduate engineers who donated the plaque. It contains the names of all past recipients of the award and the names of future winners will be inscribed as they are declared.

Based on the text from the Sermon on the Mount "Whosoever shall compel thee to go one mile, go with him twain," the "Second Mile Engineer" award was created in 1945 to encourage engineers to play an active role in political, cultural and social affairs outside the realm of their professional sphere. Each year, one graduating student is chosen for the award, on the basis of his participation in extramural activities, his academic achievements in the social sciences and humanities, and his essay indicating why engineers should participate in community activities.

## The Ripple Effect

Electric heating has boomed into prominence in Dowling Township near Sudbury, due largely to one man's inquisitiveness.

It all commenced when Dowling Township Clerk, Paul Schaak, visited an open house in New Sudbury where the first Medallion home in the area was on display. After this encounter, he decided nothing but electric heat would do for his new home because of its cleanliness and safety.

Prepared to pay more for this superior method of

heating, he actually finds that the operating costs his newly constructed home are more reasonable \$304 compared to an estimated \$380 for conventional heating per year for a ten-room house in that area.

Evidently the rest of the township was impressed. The Dowling Township offices and community centre, the municipal garage, St. Stephen's Church, and two more homes have since installed electric heat. It is expected, too, that the new school to be built next year will be electrically heated.

The Dowling Township offices and community centre is especially interesting. Of wood shingle siding construction, the 57,000-square-foot building is equipped with twelve 4-kw infra-red units and four 2-kw units in the gymnasium-auditorium. The rest of the building, including the basement, has baseboard equipment. The annual operating cost of 72 kw's installed capacity is estimated at between \$1,400 and \$1,750.

## Toronto A.G.M. Serves 52 Years

Two records were set when the assistant general manager of the Toronto Hydro-Electric System retired this year at the end of October.

McDonald (Mac) White completed 52 years with the utility setting a length-of-service mark which is not likely to be surpassed.

His second outstanding achievement was in rising from the position of stenographer in 1911 to the rank of assistant general manager in 1959.

When at 16 he joined the fledgling public utility, it was just a few months after the Toronto Hydro-Electric System was created. Recalling the early days, Mac White said, "We had severe competition in the years from the privately-owned Toronto Electric Light Company and it took good slugging to get customers to switch over. It was good training for the competition we face now from other forms of energy."

Commissioners and employees of Toronto Hydro gathered in the Westbury Hotel to pay tribute to Mac on his last working day. The large turnout and the many laudatory remarks all point to the great



McDonald White is honored on retirement. He is shown, receiving best wishes of Harry Hyde, general manager, former general managers J. S. McGregor and H. J. MacTavish.

respect and admiration his associates hold for him.

Born at Embro, Ontario, Mac White received his early education there and at Woodstock. He joined Toronto Hydro in 1911 as a male stenographer and typist.

In the First World War he enlisted in the 58th Canadian Infantry Battalion, serving overseas from 1916 to the end of the war and rejoining Toronto Hydro in 1919. Five years later he was appointed secretary to the general manager.

His appointment to assistant general manager came in 1959.

When asked for advice he would give young people joining a large organization, Mr. White said: "The opportunities are unlimited in a large corporation providing the employee is dependable, loyal, congenial with fellow workers and applies himself intensely to his job."

Mac's friends across the country know the advice he gives are the rules he followed throughout his long and successful Hydro career.

#### Toronto Hydro Announces

##### Senior Appointments

Two senior appointments were announced recently by the Toronto Hydro-Electric System.

Elevated to the post of assistant general manager was Bruce Prentice, who joined the utility in 1949.

Jack C. Ramsay, with Toronto Hydro since 1934, was named assistant general manager, Administration, and secretary. Both assumed their offices, November 1st, 1963.

Bruce Prentice joined the Distribution Department of Toronto Hydro in 1949 after graduating from the University of Toronto in electrical engineering. He was appointed executive assistant, Engineering, in 1958 and a year later was named assistant to the general manager, Engineering.

After occupying various positions in the Consumers Accounts Department, Jack Ramsay was posted to the Methods Section in 1954 to survey the System's operations. Two years later he was appointed assistant manager, Consumer's Accounts Department.

In 1957 Mr. Ramsay was transferred to the



Newly appointed assistant general managers Bruce Prentice, left, and Jack Ramsay, right, receive congratulations from Harry Hyde, general manager and chief engineer, Toronto Hydro.

Executive Department and a year later, named executive assistant, Administration, and assistant secretary. He was appointed secretary and assistant to the general manager, Administration, in 1959.

Mr. Ramsay is also secretary-treasurer for District 1 of the Ontario Municipal Electric Association.

## MUNICIPAL BRIEFS

Several utilities in Western Ontario pitched in to help desperate farmers during the recent drought by making water available free or at a nominal fee. West Lorne PUC had a coin-operated meter hooked up to the water supply so that a farmer could purchase 250 gallons for a quarter.

Anyone want to buy a railroad? London PUC has indicated that it would like to sell the London and Port Stanley Railway, according to a report in the London Free Press, in the face of declining revenues.

Galt PUC is exploring the possibility of "budget billing" its residential electric heating customers in order to even-out payments over the year. In a discussion at a recent commission meeting, it was noted that several electric heating customers had reported considerably fewer colds than with conventional heating. This was attributed to a higher moisture content and lack of dust with electricity.

Municipality of Pembroke is considering purchase of the town's distribution system which is owned by the Pembroke Electric Light Company. This company, and its forerunners have been supplying the town's electrical requirements for almost 80 years.

Among the questions the people of Carleton Place will be asked to settle when they go to the polls in December will be whether or not they favour placing the sewer and water departments under the jurisdiction of the municipality. They have been part of the PUC since 1912. If the vote is in the affirmative, the take-over would be effective July, 1964.

Latest hockey arena to install electric infra-red heating units is at Stouffville. The "people heaters" were chosen after a study indicated they were the most efficient and economical method available. Similar units are being installed in the Wallaceburg arena after a trial installation last year proved their effectiveness. Cobourg is planning to follow suit.

Waterloo Hydro is having its biggest year ever in the electric heating market. Manager Ivan Bradley reported recently that 13 residential, commercial and apartment building installations had been completed so far with seven other installations scheduled for early connection.

New Toronto Hydro plans to issue a special medallion and booklet to be sent to its customers on the occasion of its 50th anniversary.

Oakville council proclaimed November 2 as "tree planting day" and asked every citizen to plant a tree — preferably an oak. Trees were made available

through the parks department which has been protesting against the indiscriminate removal and pruning of trees by various agencies.

**Owen Sound PUC** is well satisfied with its financing program covering electrical improvements and appliances. At a recent commission meeting it was disclosed that a total of \$51,700 had been financed to date without any bad debts. Of this, washers, dryers and ranges were responsible for \$38,786 with wiring and electric heating accounting for the balance.

**Details of a Western European tour** to be sponsored by the Electric Heating Association of Ontario next spring, were outlined at the recent annual meeting of the Association. The planned tour would include utility, contractors and manufacturers' representatives. At the meeting, A. A. Robinson pointed out to utility personnel the advantages of discussing peaking problems with the British Electrical Council, of studying British communities served solely with electricity and of hearing engineering papers presented by top authorities.

**Outgoing president** of the 10,000 member Illuminating Engineering Society, G. Franklin Dean, Toronto Hydro, deplored what he called the neglect of lighting education of future engineers, at the Society's recent technical conference in Detroit. "With the growing tendency for architectural firms to leave the design of lighting entirely in the hands of consulting engineers, Mr. Dean is reported as saying, "it may be only a matter of time until the standards of lighting in new construction will have deteriorated." He said the Society had the appropriate committee to deal with the problem.

**Trenton PUC** has voted to install transistor radios in its mobile units to replace tube types now in use on the grounds that it will reduce engine idling for charging and save money in the long run.

**Leamington PUC** has again decided to offer a \$25 rebate to customers who improve the electric wiring in their homes this winter. The rebate is paid to customers who install 100 ampere services between November 1, 1963 and April 30, 1964. This is the fourth year the program has been undertaken as a winter works project.

**Personalities in the news** include *Stanley Lewis* who has been re-appointed to the Ottawa Hydro-Electric Commission for a further two-year term. Presently chairman, Mr. Lewis begins his 27th consecutive year as a member of the Ottawa commission. *J. C. Sutherland* of Hamilton Hydro has recently been elected president of the Niagara District Electric Club. *K. D. Taylor*, formerly consumer service and sales engineer with Ontario Hydro's East Central Region, has been appointed to the same post for the combined Eastern and East Central Regions.

*Milfred Adam Schilbe*, manager of Zurich Hydro System for the past six years, died recently in London. He was 62. Extremely active in community affairs, Mr. Schilbe had served on the village council for 15 years prior to his appointment to the Hydro System. ■

### Ernest Dyke Dies At Smiths Falls

Ernest V. Dyke, a former chairman of the Smiths Falls Hydro-Electric Commission and a past district president of the OMEA died recently in Smiths Falls. A commissioner from 1941 to 1957, Mr. Dyke was elected mayor in 1958, an office which he held for two years. He served as District 1 OMEA president in 1955. Active in community affairs, Mr. Dyke was district commissioner of the Canadian Boy Scouts and a member of the Smiths Falls Optimist Club. A World War I veteran, he acted as commander of the RCAF cadets during World War II and was a past commander of Canadian Legion Zone 25.

### 31 Years with INCO Ted Dash Retires



E. C. (Ted) Dash, president of the Ontario Municipal Electric Association and one of Sudbury's better known citizens, admires his new television set — a gift from his many friends commemorating his retirement from International Nickel Company after 31 years of service. The gift was presented by A. E.

Prince, left, superintendent of Inco's electrical department, at a banquet attended by more than 200

co-workers and associates in the electrical industry. A member of the Sudbury Hydro-Electric Commission for ten years, Mr. Dash began his career as an electrician's helper in 1929 and at his retirement was an electrical supervisor. He has been extremely active in his community, belonging to the Sudbury Rotary Club and the Shriners' Club.

Mr. Dash plans to continue with Sudbury Hydro and intends to seek re-election to the commission. He looks forward to the extra time he will be able to devote to Hydro affairs.

### Primary Energy Supplied in October

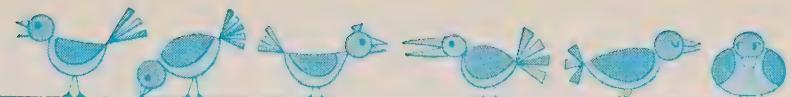
Primary energy provided by Ontario Hydro in October totalled 3.18 billion kilowatt-hours, an increase of 3.9 per cent over the same month a year ago.

For the first 10 months of 1963, the total is 30.8 billion kilowatt-hours, up 4.8 per cent over the same period last year.

Adjusted for seasonal influences, primary energy demand in October was 3.16 billion kilowatt-hours, 0.3 per cent higher than the previous month.

Allowing for seasonal influences, the October energy demand represents a yearly rate of output of 37.92 billion kilowatt-hours. This is 272.6 per cent of the energy demand in 1949. ■

# OFF THE WIRES



A striking example of how the demand for electricity reflects the minute-by-minute activities of the province occurred at 11 a.m. on the eleventh day of November. For two minutes, as Canadians everywhere said a silent prayer for the fallen of two world wars, electrical demands on Ontario Hydro's East System dropped 300,000 kilowatts—enough power to supply a city the size of Hamilton.

Normally steady demands at this hour fell off sharply from 10:52 a.m., reached a low at 11 and regained the pre-drop level at 11:08 as machines of commerce and industry resumed work.

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It all depends on whether you're selling it or slopping around in it, but we suggest that there are people who will view a recent news release of the Salt Institute with a jaundiced eye. The release states that the "bare pavement" method of snow and ice control with salt saved United States citizens \$500 million in traffic accident damage last year.

The release goes on to say that, in this method, about a quarter of a pound of salt is spread over each square yard of pavement and it suggests that the householder do likewise around his own baliwick.

No mention is made of damage inflicted by the corrosive action of the salt on auto bodies but it must be astronomical in terms of dollars and cents. Some indication of its extent was brought home to us on a recent visit to the prairie provinces where salt is not generally used. It was not unusual to see 10 and 15-year-old cars with body panels intact and chrome gleaming like new.

---

We have seen or heard Shakespeare interpreted by such brilliant artists as Maurice Evans, Christopher Plummer and Sir Lawrence Olivier but it was not until we had seen B. D. Fleming's Hamlet and other inspired offer-

ings that the great bard's full significance became clear to us.

Few among the audience privileged to attend the recent annual meeting of District 4 OMEA will forget the performance. They had come prepared to scoff but as the solitary figure strode out to deliver his immortal passages from the authentic bareness of the Elizabethan stage, the murmur faded and each tone and cadence of the actor's great voice became a cherished memory.

Purists will condemn the actor for taking liberties with the playwright's original text, but in this critic's view, where there is improvement there is no sin. And those who were there will not quarrel with the superiority of the Fleming version. It is enough to quote from the great speech by Mark Antony:

"Friends, commissioners, managers, I come not to praise gas, But to bury it . . ."

In an exclusive interview with Hydro News after the performance, Mr. Fleming suggested that his future plans, insofar as the theatre was concerned, remained uncertain. Meanwhile, he will continue as manager of the Toronto Township Hydro-Electric Commission.

---

Canadian General Electric Company is raising the roof in Guelph but they aren't mad at anybody. The additional height will enable them to install a 4,000,000-volt impulse generator for testing 735,000-volt transformers ordered by Hydro Quebec for its extra-high-voltage transmission line project.

---

Shortages are nothing new to Britons, who grew used to standing in line before and after the last war, but patience is not likely to overcome the latest deficiency—holes. Big deep holes for dumping industrial waste are at a premium if we can judge by the joyful reaction of the Central Electricity Generating Board when it discovered, and rented, 20 first-class holes at a brick-

works in central England. The holes had been dug over a period of 60 years by brickworkers excavating clay.

And now the Board has embarked on an \$18,200,000 project of filling the holes with cinders from its generating stations. Everybody is happy because the hole owners will end up with valuable reclaimed land. But the whole hole problem remains unsolved. Perhaps the board would be wise to consult with experts in the hole field—such as the Swiss cheese makers.

---

In Port Hope recently, firemen rushed up the stairs at the scene of an apartment fire only to meet the blaze on its way down in the hands of a Hydro crewman. Advised of the fire, which was in their immediate location, over the truck radio, the Port Hope Hydro men arrived first and brought out the blazing sofa cushions. Damage was confined to the sofa and floor covering.

---

Concerned as he is with a new field of technology, Ivan Lloyd, chief guide at the Douglas Point Nuclear-Electric Project, has to cope with some pretty uninformed questions—such as the one posed by a visitor who wanted to know which river had the heaviest water. But his aplomb broke down with the receipt of the following letter from a young lady in Ohio. It read:

"This is very urgent. Would you please send me 10 sketches of an atom with atomic weight of 40 lbs. I need it for science. Would you please send some other things on atoms also. Please send it special delivery, so that it will be here before the 9th of October.

"P.S. I am enclosing 25c for the order. If you don't send the things please send me back my 25c."

Mr. Lloyd has our blessing in his search for a 40-pound atom which, after all, is only about the size of a big turkey. ■

**PLANNED LIGHTING ADDS GLAMOUR AND DIMENSION TO YOUR ROOMS.** Concealed and decorative lighting can be used in dozens of ways to add a decorator touch to any room. The effect can be dramatic—the cost very little.

# Modernize

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With

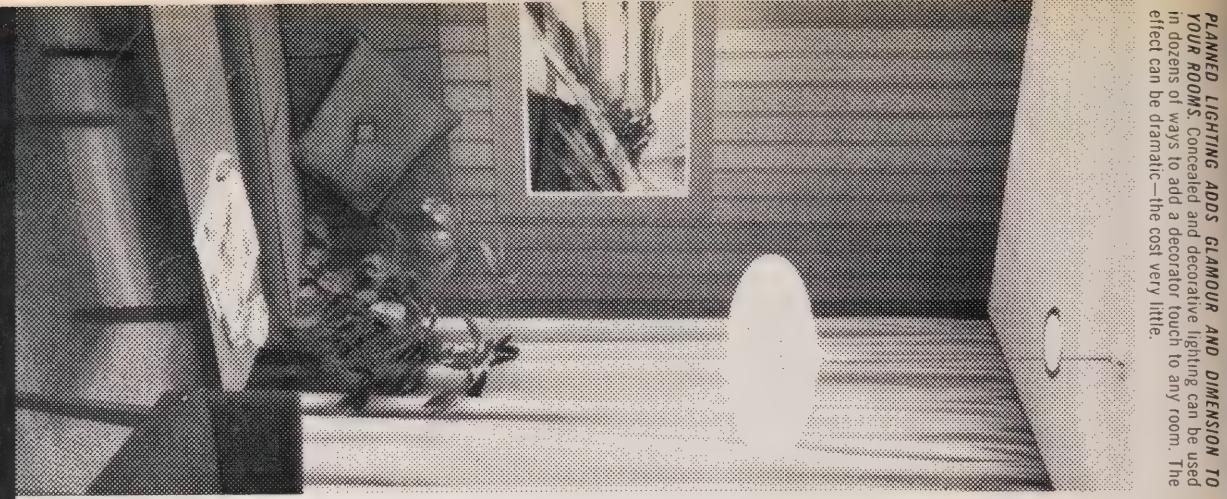
# electricity

# your hydro

LIVE BETTER ELECTRICALLY

**FULL HOUSEPOWER MEANS ADDED SAFETY AS WELL AS CONVENIENCE.** Full 100 amp service provides you with enough power for all the time and labour saving electric appliances you'll ever need. It provides added safety, too, by eliminating the risk of overloading your present wiring system.

This is one of 17 advertisements prepared for the municipal electrical utilities to assist in their local advertising programs. They feature a uniformity of layout designed to establish continuity and a "family" resemblance. Mats or stereos are available without cost from the Advertising and Marketing Services Department of Ontario Hydro.



**ELECTRIC HEAT CUTS THE COST OF HOME EXTENSIONS.** If you're adding to your home or converting your basement or attic room into extra living area, you can install flameless supplementary electric heating for less than it costs to extend your present heating system.



ONTARIO  
**HYDRO**  
**NEWS**

DECEMBER, 1963

The story of light commences on page one



# A CHRISTMAS MESSAGE FROM THE CHAIRMAN

We welcome the Christmas season and its message of peace and good will which our confused and troubled world, especially now, so sorely needs.

To those of us who are older, there may be nostalgic memories of a more simple time when the tinkle of sleigh bells in the distance could be heard in the quiet and peace of the countryside. Pungent and appetizing aromas came from the extraordinary activity in the large kitchens with wood fires crackling and burning brightly ready to welcome the family from far and near.

From such memories of the past we draw strength and resolve for the present.

In the turmoil and confusion of today, it may be necessary to remind ourselves that it was only the lonely shepherds on the quiet, star-lit hills that heard and heeded the angels' song which went unnoticed in crowded Bethlehem, where the people were seeking only their own personal comfort and well-being.

I suggest we will capture more of the real magic and substance of this Divinely-inspired season if we, like the shepherds, not only will pause to hear, but heed the angels' song, be guided by the star, and join the increasing host of people who through the years have faithfully and often heroically tried in many ways to make peace on earth, good will to men a reality.

The members of the Commission and our senior staff all join me in expressing warmest Yuletide greetings to all members of the Hydro family. May you all enjoy in its fullest and best the spirit and truth of the Christmas season.

DECEMBER, 1963

## ONTARIO HYDRO NEWS

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### THE COVER

In the process of editing our article on the history of light we got to thinking deep thoughts on the nature of the subject. What is light: a white-hot filament, a bolt of lightning—or only a firefly? To find out we called on the camera, which is never supposed to lie, and brought the lens up close to a burning candle. What it saw is reproduced on the front cover. The article, commencing on the opposite page, has been illustrated by staff artist Isobel Morgan.

### HYDRO NEWS, VOL. 50, NO. 12

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# THE STORY OF LIGHT

by Jack Boitson



*“When they had heard the king, they departed;  
and lo, the star which they saw in the east, went before them  
till it came and stood over where the young child was.”*

—Matthew 2:9

The sparkling, multi-colored lights of Christmas symbolize the sentiments of this festive season. By driving down any street between mid-December and the New Year, we can capture the warmth and hospitality radiating from the brightly decorated houses and yards. Each home expresses the individuality of the dweller through the use of a multitude of exterior, decorative lighting effects, while rooms within generate a glowing welcome, from illuminated hallways and archways to gaily lit trees and ornaments.



The association of light and Christmas dates back to the birth of Christ and the Star of Bethlehem. We all know the story of how the shining magnitude of this heavenly body pointed the way for the Wise Men who made their long journey to see the wee Babe in the manger.

Modern astronomers and historians are still speculating about the light that occurred in the heavens that night. But whatever that explanation may be, the preparations of the Almighty in announcing the birth of His Son to the world were indeed fitting.

It's only natural then that light should express the warmth and hospitality of the Christmas season. But ever since the dawn of history, light has been a comfort to mankind.



Our cave-dwelling ancestor dreaded the real and imagined terrors of darkness which descended upon him as the sun set and his familiar world vanished. His first great step toward turning night into light was the discovery of fire. We can surmise that soon after this he learned to pull a burning brand to illuminate the dark corners of his cave-home.

The pages of history record the many civilizations which depended on torch-light to reveal their path at night, light their homes and illuminate their streets. And to this day, in remote parts of Africa and South America, people still depend on open fires, torches and primitive lamps to push back the shadows of night.

At about the time that prehistoric man thought of using a fire-brand to light dark corners of his cave, he stumbled on the discovery of the lamp. Again we can only surmise. He probably observed a shred of bark falling into a pool of animal grease, becoming ignited and burning for a relatively long time. His ingenuity led him to hollowing stones for holding the grease and developing fibrous wicks which were ignited and allowed to float in the bowl-shaped stone.

The candle, a natural evolution from the torch, was used by the Romans, but it really came into its own in the Middle Ages and continued in use as a primary light source until well into the 18th century. Today, candles are used mainly for religious purposes, for special festive occasions and intimate dinners in the home.

Perhaps the most picturesque candle use today is one practiced in Sweden during the festival of Saint Lucia. At dawn on December 13, one of the family, usually a daughter, is gowned in flowing white robes and wearing a wreath of candles in her hair she tip-toes into each bedroom of the sleeping household, leaving behind a lighted candle, a pot of steaming coffee, a plateful of cookies and numerous small gifts.



The story of the Christmas candle has been traced to Rheims, France where some 500 years ago, as the fable goes, a French lady of nobility lived with her two children. The father had gone to war and been lost. Their fortunes dwindled and they were living in extreme poverty.

On this particular Christmas Eve, the little girl placed a tallow candle on the window sill hoping that others



would be happier for the gift of light. As it turned out, a poor boy seeking companionship, saw the tiny gleam of light and went to it. The family welcomed him warmly and shared their meagre food with him. As the lad left, he said, "Thou with thy little candle have lighted the Christmas child on his way to Heaven. This night shall thy dearest wish be granted."

Shortly after there was a knock on the door again, and this time it was the lost father returned to his family. When asked how he found them, he replied simply, "I met a ragged boy on the road, he told me where to find you."

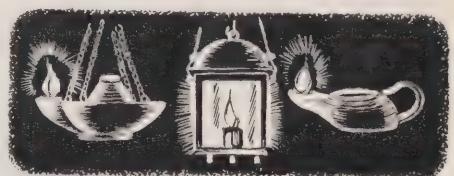
The use of candles on Christmas trees dates back to Martin Luther. While walking home one night he was so impressed with the stars twinkling above him that he put candles on his Christmas tree to illustrate to his family the stars he had seen.



The strong reverence for light is woven through most mythologies and religions. Man reasoned: the sun is the source of life; darkness is the source of evil and death. As we trace the story of civilization, we find evidence of this—from primitive burials when lamps were interred in the

grave to light the way into Heaven, to the eternal flame burning on the tomb of the unknown soldier.

It's interesting to note that little improvement was made in early light forms until the Greek and, later, the Roman civilizations. But more interesting still, apart from details and design, artificial illumination had not made any significant strides forward until only about a century and a half ago.



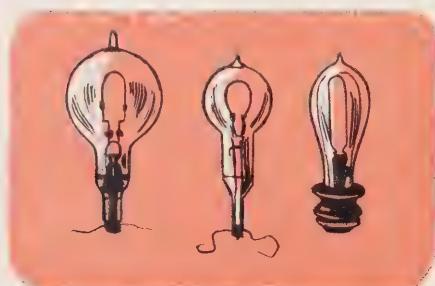
By the middle of the 19th century, new and cheaper sources of fuel oil were being developed for use in lamps. But the lamp was eclipsed at the moment of its glory. As early as 1798, gas had lighted an English home and by the second half of the 19th century it became the accepted light source.

The first Canadian city to have the new lights was Montreal, where it was introduced in 1840, followed by Toronto a year later.

Then came the discovery that was to revolutionize lighting and set the stage for present developments.

The possibilities of electric light were discussed as early as 1808. The first definite electric light appeared in the form of Jablochkoff's "candle" consisting of two carbons placed side by side. It enjoyed widespread use in London, Paris and other European cities in the 1870s. Arc lights were also introduced to American and Canadian cities shortly after.

But if early arc lights were not practical, they started other experimenters on the road to find something that was. Two men arrived at this goal at about the same time, Joseph Swan in England and Thomas Edison in America. This was the incandescent lamp.

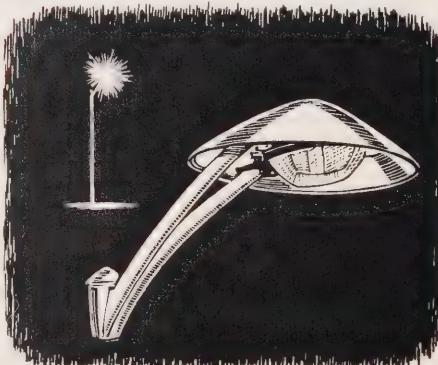


In 1878 Edison, after years of trial and error experimentation, stumbled on the carbon filament, which consisted of cotton thread that had been thoroughly carbonized. A later discovery, after the turn of the century, substituting metal for the filament led to revolutionary changes in lamp production. The first tungsten filaments were manufactured in 1911. The next great improvement was the "gas-filled" bulb, replacing the vacuum bulb and giving more brilliance from less current.

At about this time, also, Christmas decorative lighting entered the scene, divorcing the dangerous open-flame candles from the inflammable evergreen. Tree lighting is said to have originated in Europe, where it enjoyed some popularity, but with its introduction to America, a new industry was born. In Canada, tree lighting didn't really start to mushroom until the mid 1920s. Today, it's a multi-million-dollar business

and last year alone, nearly 50,000,000 Christmas decorative lamps were sold.

The changes that electricity evoked in lighting habits of the civilized world were sudden and complete. Each discovery led to another. Mercury lamps, although first conceived in 1675 when mercury jostled in a thermometer was noted to leave a glow behind it, have left an imprint that is clearly visible in almost every city, town and hamlet in our country. From street lighting, these versatile "stars" are seen today along thundering expressways allowing man to whisk himself quickly through densely populated metropolitan cities.

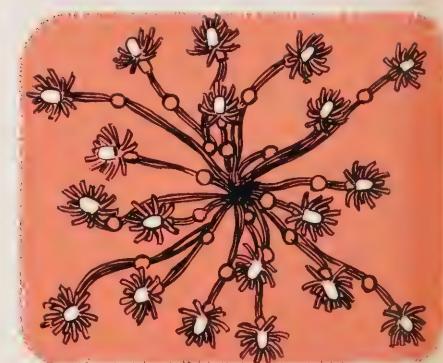


While our great, great grandfathers toiled laboriously over ledgers under feeble, flickering candlelight, most modern offices today enjoy the ultimate in fluorescent, indirect lighting. Modern illumination has even assumed a dual personality and is being utilized to help heat industrial and commercial buildings. Heat generated by the lights helps to maintain building temperatures at desired levels during the winter through the use of the increasingly popular heat pump system.

Present experiments for improving electric lights and lighting techniques will undoubtedly produce some new concepts. Manufacturers, for instance, are at the advanced experimental stage with electro-luminescence, which are simply panels of glowing light that will be used in wall and ceiling construction.

Other studies are concentrating on light intensity levels to determine a proper atmosphere of light for efficient work production.

We have to concede, then, that man has, to a great degree, succeeded in pushing back the hours of darkness, extending "daylight" so that he might perform useful tasks and enjoy more fully his leisure time. The dawn-of-light lasted thousands of years and it's just in the last 75 years or so that the ability to change night into day has been mastered.



So, as you enjoy your drive along brightly lit streets and marvel at the multitude of decorative lighting schemes that herald the coming of Christmas Day, try to imagine what Christmas without electric lights would be like. Better still, ask your grandfather!

when the  
ELECTRIC LIGHT  
was a  
CIRCUS STAR

## T. H. KILGORE

who died recently in Toronto at the age of 91, was a man with some vivid recollections of his boyhood on his parents' farm in Wellington County. In a letter to *Hydro News* written shortly before his death, Mr. Kilgore recalled one particularly strong memory of a day in the early summer of 1881 when, with his parents, he visited the circus in Elmira. He went on to say:

"To a boy of my years, circus bills were something to be studied. Printed in single colors, they proclaimed, in big, brilliant type, that there would be a showing of the 'Electric Light.'

"He was a good circus man," said Mr. Kilgore. "At that time, electricity was thought of as something far away, and few even dreamed of seeing electric light."

"As I remember the performance it was much the same as those of today. There was a bearded lady, a knife thrower, a high wire artist, tumblers—and then, when the performance ended, a light, not very brilliant, at the top of the centre pole.

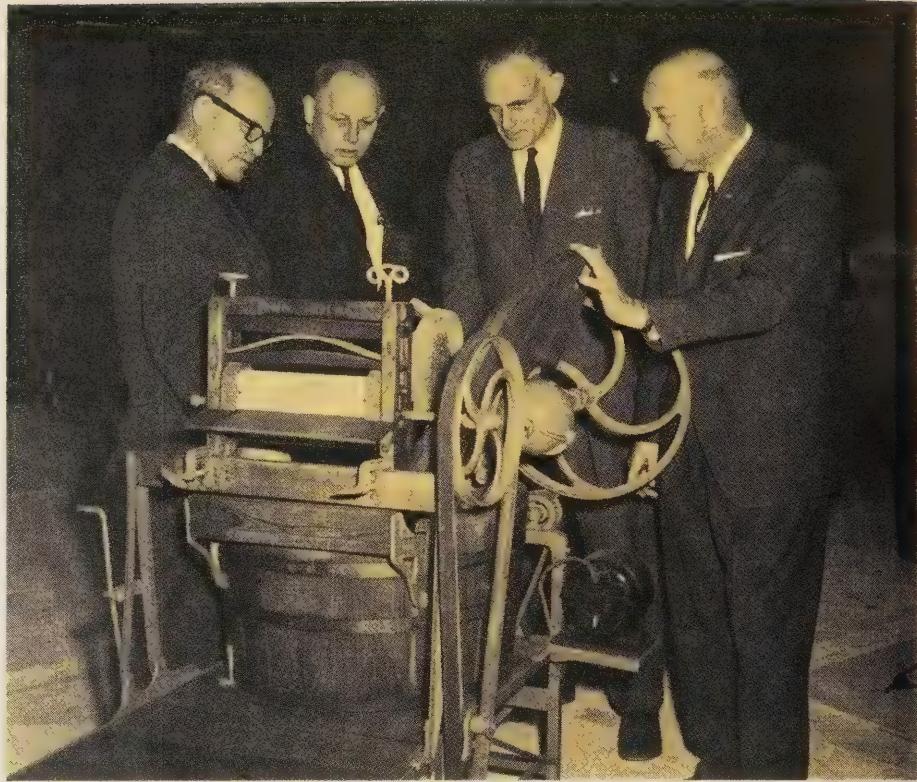
"What I remember most is that it was connected to a truck-mounted steam generator by what looked like a half-inch copper wire."

Says Mr. Kilgore: "No other recollection of those earlier years can equal the thrill I got from seeing my first electric light."

Strange that the phenomenon which once persuaded a circus owner to give it feature billing in his performance, has today become a skilled factory hand, business boon and household servant across the length and breadth of the province.



*With leading roles in the historic collection project, these members of the planning and technical committees examine ancient washing machine. From left are: Lt.-Col. A. A. Kennedy; Keith Bellamy; Henry Sissons; and Ted Dietrich.*



*History is important  
and Hydro is concerned*

# LEST THE PAST GROW DIM

Although The Hydro-Electric Power Commission of Ontario was not created until 1906, and first power delivered to the associated municipal utilities in 1910, Hydro's history spans much of the electrical age, generally considered to have started in 1882 when the first commercial electric plants were brought into production in the United States and England.

Hundreds of electrical pioneers still recall vividly the early days of the Hydro family — its struggles and triumphs. To preserve these memories and the apparatus which advanced the science of electricity, Ontario Hydro has approved a two-year program designed to collect and refurbish historical equipment of significance to the development of the industry.

To assist in this work, Lt.-Col. A. A. Kennedy, a member of the historical planning committee and one of its most enthusiastic workers, has enlisted the support of Hydro commissions and utilities throughout the province.

Speaking at each district meeting of the Ontario Municipal Electric Association this fall, Col. Kennedy encouraged the formation of local historical committees to assist in the project at the district level. Coordinating the work of these committees with that of the central group are the regional public relations officers.

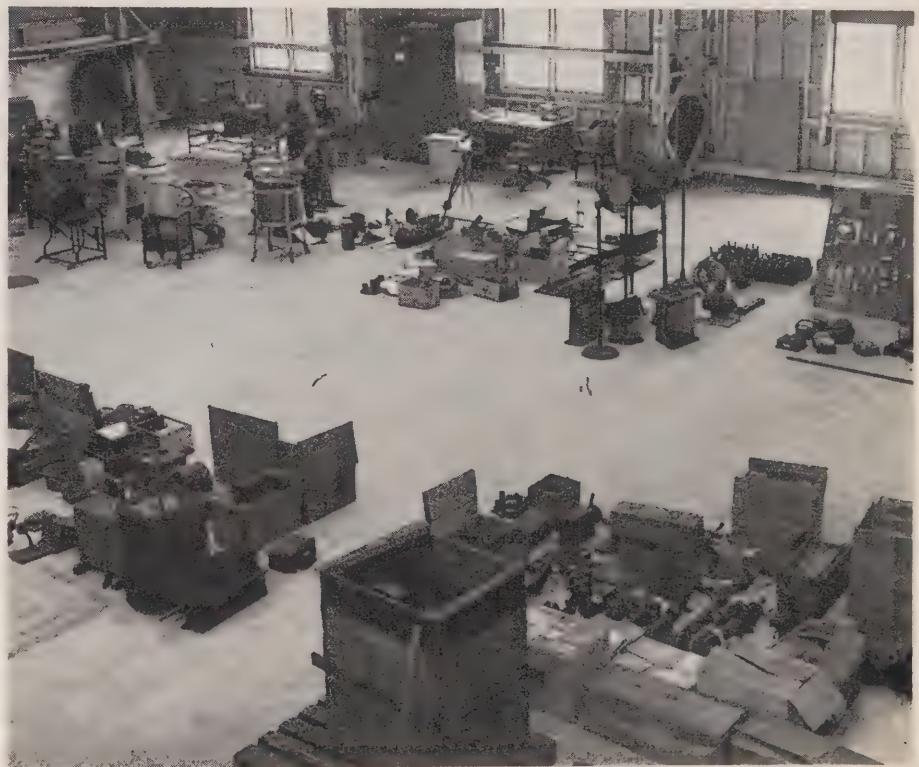
Chairman of the Central Planning Committee is H. J. Sissons, Ontario Hydro's assistant general manager-Services. Other members in addition to Col. Kennedy are: E. B. Easson, secretary of the Commission; R. M. Laurie, manager of Western Region; W. R. Mathieson, manager of the AIMEU; and Ted Dietrich, manager of the Services Department, Public Relations Division, who is acting at present as coordinator.

To facilitate the work of the planning committee, eleven technical committees have also been set up to cover various aspects of the electrical industry, such as motors, appliances and transformers.

An important facet of the planning committee's work is the investigation of the best uses for the collection — which could serve as a tribute to electrical progress for Canada's centennial in 1967.

Among the possibilities being considered is the establishment of a Museum of Electrical Progress, which would incorporate a visual story of the past with that of today and reach into the future to indicate what is on the drawing boards and in the minds of today's electrical pioneers.

*Historical items are being collected in building, lower right, at A. W. Manby Service Centre. Lois Rebun, right, is fascinated by electric range dating back to turn of the century. Extensive collection of Heinz Peper, below, of Waterloo, has been acquired for the Hydro project.*



Ontario Hydro's Research Division. It was through his efforts that one of Canada's first generators, hand-built by Edison, is now in the hands of the planning committee.

This generator, first placed in service in 1883 to light the weave room of Canadian Cottons Limited, Cornwall, was one of the first industrial electric installations in the world. In addition to the generator, Dr. Dobson was also responsible for preserving much of the laboratory equipment

which helped establish Ontario Hydro as a leader in electrical research.

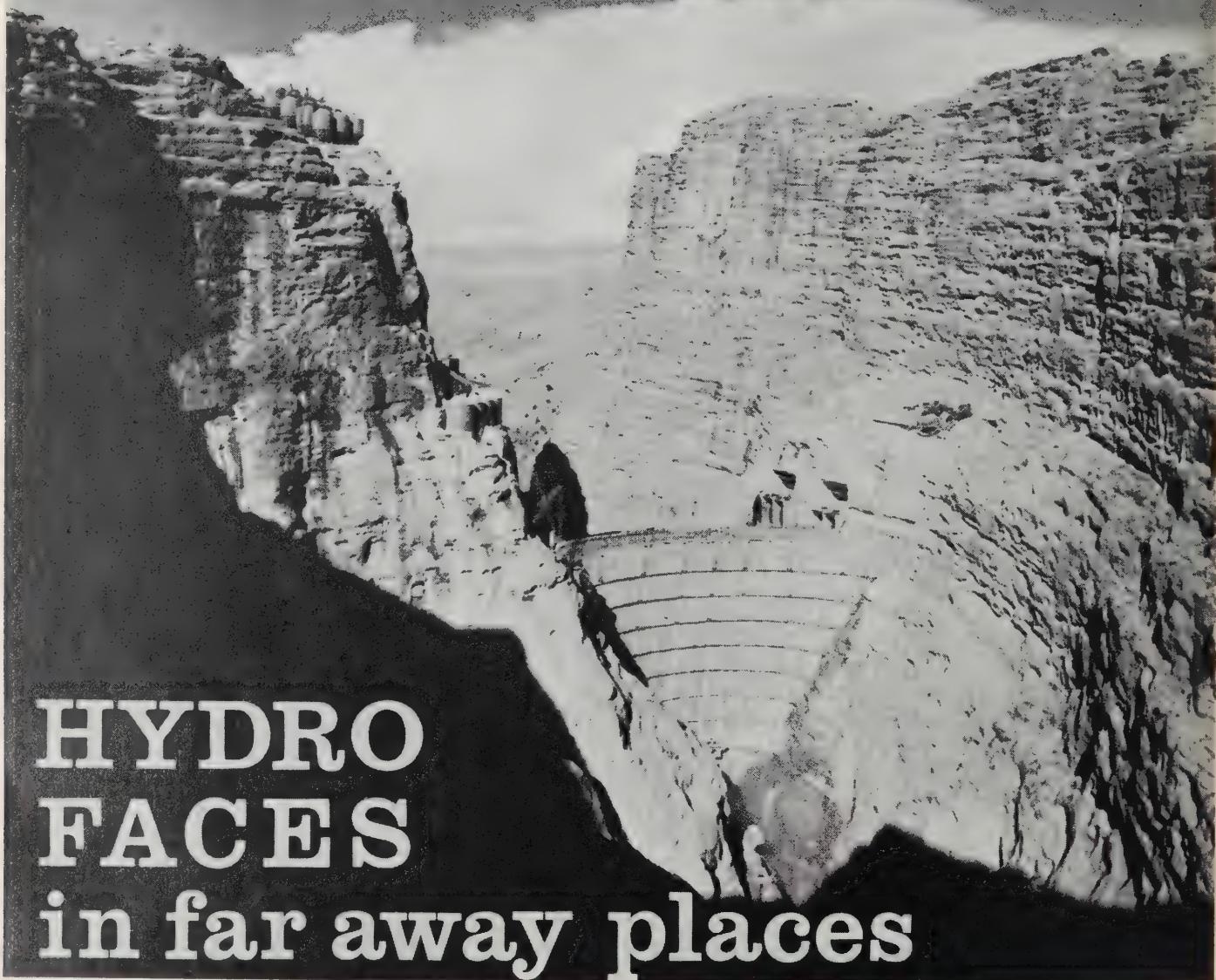
Focal point of the collection is the Models Building at the A. W. Manby Service Centre where the first antiques are starting to arrive for classification and refurbishing. One of the committee's first acquisitions was the collection of Heinz Peper, a high school science teacher who for the past decade or more has assembled one of the best displays of electrical antiques in the province. ■

Whether or not these plans ever take concrete form on their own or in conjunction with other industrial museum collections, is beyond the reference of the present committee, but it is assuring that the material will be available. The committee is working in close co-operation with federal, provincial and municipal levels of government to prevent duplication of effort.

In addition to the museum concept, the committee is planning to make mobile displays available for exhibit at Hydro anniversary celebrations, as well as other historical events sponsored by civic groups, service clubs and schools.

Initial reaction to the project has been enthusiastic. In addition to its endorsement, industry has also come forward to offer its services to the eleven technical committees. Its experts will join those of the Hydro family in searching for and authenticating material and historical references.

Although the museum concept presently being investigated by Ontario Hydro represents perhaps the first concerted efforts to preserve a rich heritage — many have taken a keen interest in electrical history. One of the pioneers in this movement was Dr. W. P. Dobson, former head of



# HYDRO FACES in far away places

by Paul Chisholm

At a little white school house in the torrid Khuzestan region of Iran, 30 Canadian children talk to their classmates of an exciting game called ice hockey. Thousands of miles away in Brazil, a Canadian engineer hacks his way through steamy jungle growth to survey sites for future hydro developments . . . .

The two incidents are not unrelated. The fathers of the school children are specialized Ontario Hydro personnel, and so is the engineer in Brazil. They are among 26 employees now serving on, or about to leave for, temporary assignments in five foreign lands.

Ghana and Pakistan have also called on Hydro to share its knowledge

and experience gained in 50 years of power production and distribution, while Trinidad has drawn from the administration side of Hydro for an advisor.

It speaks well for the international reputation of Hydro that these lands are willing to assume the expense involved in drawing on the Commission's manpower resources. Full salaries and costs must be assumed by the countries or authorities concerned. It can mean an outlay of as much as \$8,000 just to have one man and his family arrive on station, when such charges as furniture storage in Canada are considered.

All projects in which Hydro personnel are involved overseas are of

*Skilled Ontario Hydro personnel are lending a hand from South America to Africa and the Middle East.*

Dwarfed by precipitous canyon walls, Dez dam, left, is more than 650 feet high. Ontario Hydro personnel are training Iranians to operate \$65 million project.

Nomad families like one at right roam area of Dez development when winter snows drive them from hills.

Photo, below, shows John Rogers, chief engineer of Volta River project and formerly of Hydro's hydraulic department, with R. H. Hillery, Hydro's director of Operations, and Ghanaians near Akosombo.



vital importance in advancing the countries and raising standards of living. Particularly is this so in Iran and Ghana, where ambitious industrialization and development programs hinge on a plentiful power supply and associated irrigation works.

The \$65,000,000 hydro-electric station on Iran's Dez river, and the \$168,000,000 Akosombo scheme on the Volta river in Ghana, are both more than 6,000 miles from Toronto. But under formal agreements with Hydro, the projects are being developed virtually as though they were part of the Commission's system, according to R. H. Hillery, director of Operations, who recently visited

both countries.

"For the duration of our commitments, the schemes are on the same footing as our own stations. Available to them are all the resources and know-how of Ontario Hydro which they may require. In the other countries which have sought Hydro's aid, personnel are on leave of absence. They are, essentially, highly qualified individuals temporarily on the payrolls of private companies, foreign governments, or the United Nations."

The 10-man Hydro team in Iran, headed by Don Haig, formerly plant superintendent of Nipigon River generating stations, is responsible for commissioning the 520,000-kilowatt Dez project, and training young

Iranians to operate it. He will remain on the job at least another year, for a total of 30 months absence from Canada.

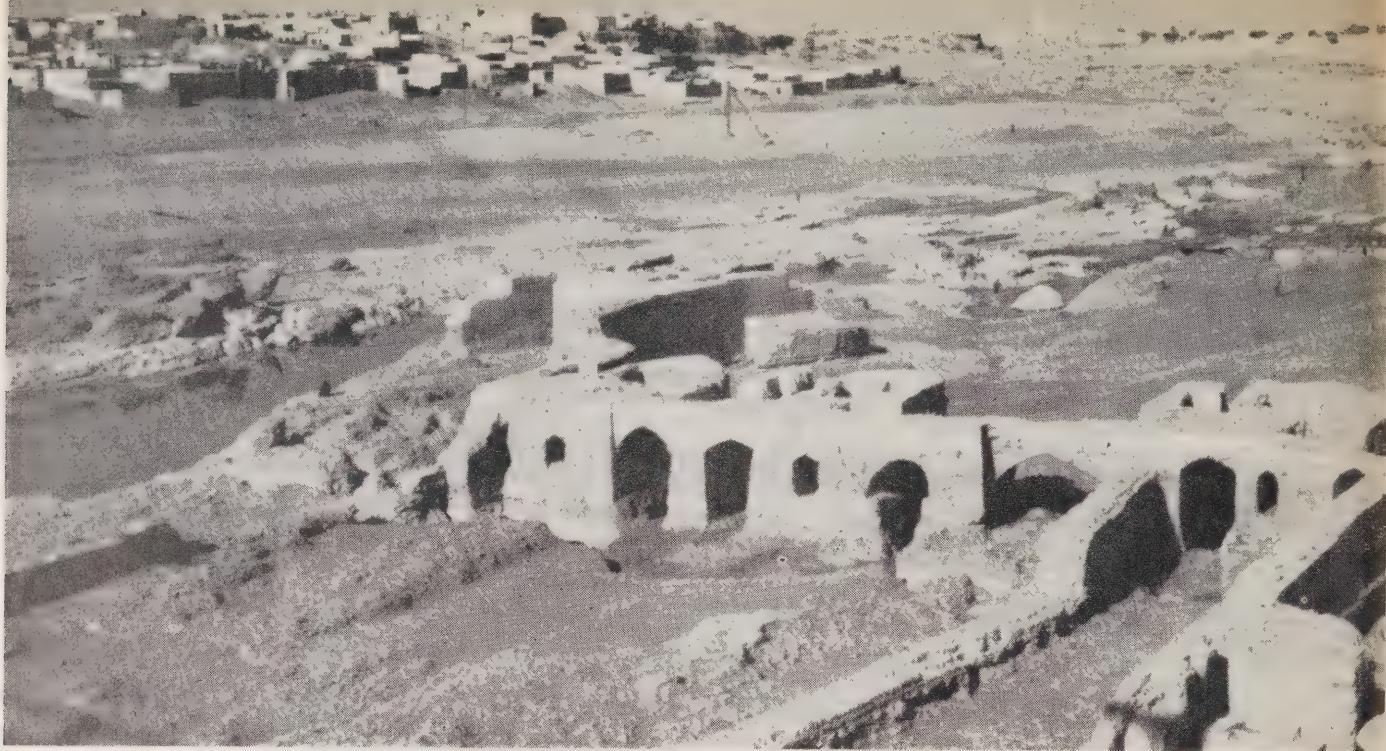
The Dez project is part of an overall plan to restore the parched Khuzestan plain to the prosperity it knew 5,000 years ago. This once fertile region served as "breadbasket" for a world ruled by Persian kings, and the remains of the vast irrigation canals which brought it into being can still be seen. The land reverted to its present state during the 13th century after it was viciously sacked by Mongol hordes who killed all in their path.

"The present Shah of Iran has decreed that oil royalties be used for such beneficial purposes as irrigation works, hydro-electric plants, fertilizer plants, and sugar refineries," Mr. Hillery explained. "Dez is the initial power development."

The gorge in which the project is built is 2,000 feet deep, has almost perpendicular sides, and is only 20 feet wide at the bottom. As a spectacle, Mr. Hillery describes it as "breath-taking . . . one is inclined to think that God intended man to build a dam there."

Nearby, the Hydro families live in modern, air conditioned houses, with communal tennis courts and a spacious swimming pool. The Canadian children attend a two-room school where two teachers instruct up to the Grade VIII level.

In contrast, 50 miles away in the village of Shush, devout Moslems trek to the tomb of Daniel, of Lion's



Den fame, who was one of the prophets of Mohammedanism.

Winter temperatures range from 60 degrees at night to a comfortable 80-90 degrees in the day. In summer, the mercury goes as high as 130 degrees in the shade, but this is more bearable than it sounds because humidity is only about five per cent.

Washing dries so quickly that by the time the last article is hung on the line, the first one is dry. Nomads roam the region of the power development four months of the year when November snow drives them from the mountains in the north where they graze goats and sheep in summer.

Only Iranian businessmen wear Western-style clothes. The general population wears robes and turbans or tribal hats, and the women wear

shawls or "chadors" over the head, with one corner pulled over the lower face, or held in the teeth.

"The young Iranian operators-in-training have astounded their Canadian teachers in learning ability and overall keenness," said Mr. Hillery. After only one week of instruction, the average examination mark was 72.5 per cent, and at the end of the second week, the average was 88 per cent.

Iranians generally can be extremely camera shy. Mr. Hillery learned this in trying to photograph a young girl carrying a large bundle of sugar cane on her head. As soon as she spotted the camera she threw off her load and scampered off.

Battling through rush-hour Toronto traffic can be considered relax-

ing compared to some of Mr. Hillery's experiences in Khuzestan. "Road traffic is light and Iranians are fast and reckless drivers. They will pass on hills and take all turns on the inside lane, blowing their horns after they have passed rather than before.

"Driving reflects their generally fatalistic approach to life. It is as Allah wills, and since by observing all the rules of Islam, they are assured a place in heaven, rules of the road can be ignored."

Another road hazard are Nomad families. In typical fashion, father is mounted on a lead donkey, chickens perch on a second one, followed by goats and sheep driven by children. Last but not least comes mother, carrying most of the household goods on her head.



*Nine-room school shown nearing completion, far right, will be attended by children from English-speaking countries whose fathers are assisting on Volta River development. Centre photo shows operators' houses under construction at same project. Native fishing canoe at Tema, Ghana, right, bears words "I Love You" in place of name.*

*Antiquity of Khuzestan region of Iran is suggested by these ruins at Dezful near the dam site which date back to time of Christ.*

Compared to generally arid Iran, Ghana is a lush, colorful country, with flowering trees and shrubs in profusion. Because of institutions left behind by the British from colonial days, some aspects of life in the six-year-old West African nation are quite familiar to Canadians, according to Mr. Hillery.

Hydro's responsibilities in Ghana are even more far-reaching than in Iran. The 12-man Hydro team, main body of which will leave in mid-1964, will not only commission and initially operate the Volta River's Akosombo scheme, due to come in a year later, but will also be responsible for an entire 500-mile transmission system. Ghanaians who will eventually take over from the Hydro crew will come to Canada next spring for on-the-job training at various Hydro stations.

And three Ontario Hydro employees on leave of absence, hold key positions with the Volta River Authority. Frank J. Dobson, former construction manager at the Lakeview generating station, was appointed chief executive two years ago. As construction of the Akosombo project progressed, he was joined a year later by John H. Rogers, now chief engineer of the authority, and L. P. Larsen, who is its chief accountant.

"Ghanaians are much impressed by the way we do things at Ontario Hydro, and much of their own Volta River Authority is being set up on similar lines," said Mr. Hillery. "They have asked us to guide them in establishing operations, maintenance and consumer service divisions."

Approximately two-thirds of the 512,000-kilowatt output from Akosombo will be used by an aluminum smelting works, the first major industry for the country. The world's largest man-made lake which will back up from the 370-foot clay and rock dam now under construction will also have important economic repercussions.

The 3,275-square-mile lake will submerge four per cent of Ghana's total area (which is approximately one-quarter of the size of Ontario). A fresh water fish industry is expected to be established, and irrigation will make wet crops such as rice possible. These are important factors in Ghana's efforts to swing the economy from its predominantly cocoa base. No less important, the thousands of miles of shoreline will permit regular communication and transportation by water with isolated northern regions of the country.

During a round of Sunday golf in Ghana, Mr. Hillery learned the hard way that when a ball goes in the rough, you leave it there! "I had been warned of this because of the likelihood of snakes," he recalls, "but during the game I hit one about a foot into the rough, and couldn't bring myself to leaving it there. I studied the situation for a moment, and made just one step to knock it out with my club. In that split second I was covered with ants right up my leg, and was quite badly bitten."

The Hydro families will live in modern, air conditioned bungalows at Accra, the capital, which is 50

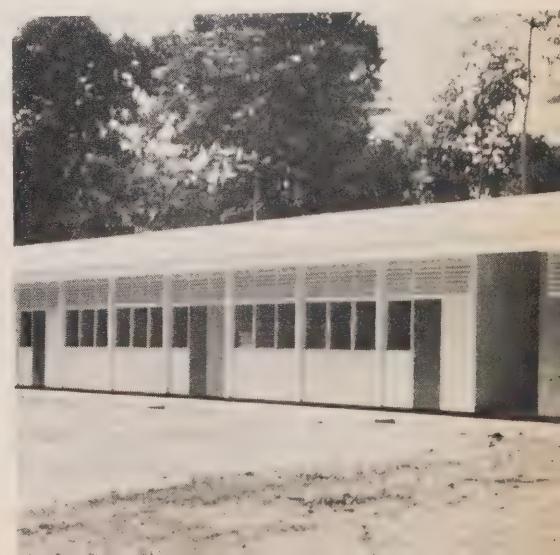
miles from the Akosombo site. The homes they will rent from V.R.A. are fully furnished and contain all the modern facilities they have become used to in Canada. Even toasters and cutlery are supplied.

Temperatures in Accra, which contains all the amenities of a modern Western city, range from 90 to 95 degrees year round. Daylight comes in two or three minutes at 5.30 a.m., and disappears in similar fashion at 6.30 p.m. More humid than Toronto, the most pleasant part of the day is between 5.30 p.m. and 8.30 p.m., when a cool breeze from the ocean fans the area.

"Ghanaians are a gay, colorful people," says Mr. Hillery. "Their thirst for education and learning is overwhelming to the visitor." White shorts and open-neck shirts (worn outside) are common dress for men, and women wear light cotton skirts and blouses.

In contrast to modern Accra are the countless tiny villages of neat wooden huts with thatched or corrugated iron roofs. In these villages, life goes on much the same as it did centuries ago, and some are still administered under the tribal system. To many villages, Akosombo will mean initial electrical services.

It is a common sight when driving through these villages to see lathered-up Ghanaian children in galvanized iron tubs, being vigorously scrubbed by their mothers. "Bath time," comments Mr. Hillery, "appears to be just as unpopular with children in Ghana as it is in Canada."





# KILOWAT

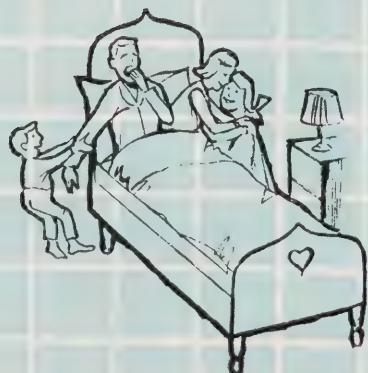
kilowatts

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# TS and CHRISTMAS



Only power supervisors and others charged with assuring us an adequate supply of essential electric power around the clock will see any resemblance between the black line rising and falling across these pages and Christmas Day in Ontario.

But, to the experienced eye, every small variation in this demand chart reflects the activities of the day and that's why we called in the artist. In consultation with Ontario Hydro's load forecasting engineer, he has attempted to translate some of the peaks and hollows from kilowatts to Christmas.

The chart, which is a projection of December 25, 1963, on the East System, assumes seasonable weather and is based on experience of previous Christmas Days, over-all growth in the past 12 months, and other pertinent factors. At Richview Control Centre on the Western outskirts of Toronto, the chart will be substantiated on the galaxy of dials, gauges and meters which will provide an actual minute-by-minute picture of power output and demand as the day progresses. It will be business as usual here, of course, and the staff will work its three regular shifts on Christmas Day.

Through the operator's eye, Christmas Day will look very much like a Sunday. A base load of some 2,800,000 kilowatts represents demand by essential services including hospitals, police and fire departments; heavy industries such as steel which never fully cease operations; plus household heating and refrigerators.

But because thousands of people are up late Christmas Eve, and many attend midnight church services, electric demand remains high later than it would in the wee small hours of a Sunday morning. There is also a distinct rising pattern from 6 a.m. (as any parent will understand) which is earlier than on normal Sundays. And from here on, the activities of

Christmas faithfully unfold in the chart's variations.

Indoor tree lights go on and the family gathers for gift-opening. Countless little boys unwrap electric train sets or plug-in racing car tracks. Big sister experiments with her new hair dryer. Mom gives the new mixer a whirl, and having glanced over the guarantee, slips off to the kitchen to switch on the percolator and toaster. Dad is at last prevailed upon to use his electric razor.

More families are on the rise, and others are preparing for church. The first of the big turkeys are oven-bound as the power curve verifies.

By 10 a.m., TV sets are being switched on to hear Christmas messages by the Queen and national leaders. More and more gobblers are going into ovens. Shortly after noon hour, the initial power peak of the day (approximately 3,850,000 kilowatts) is reached.

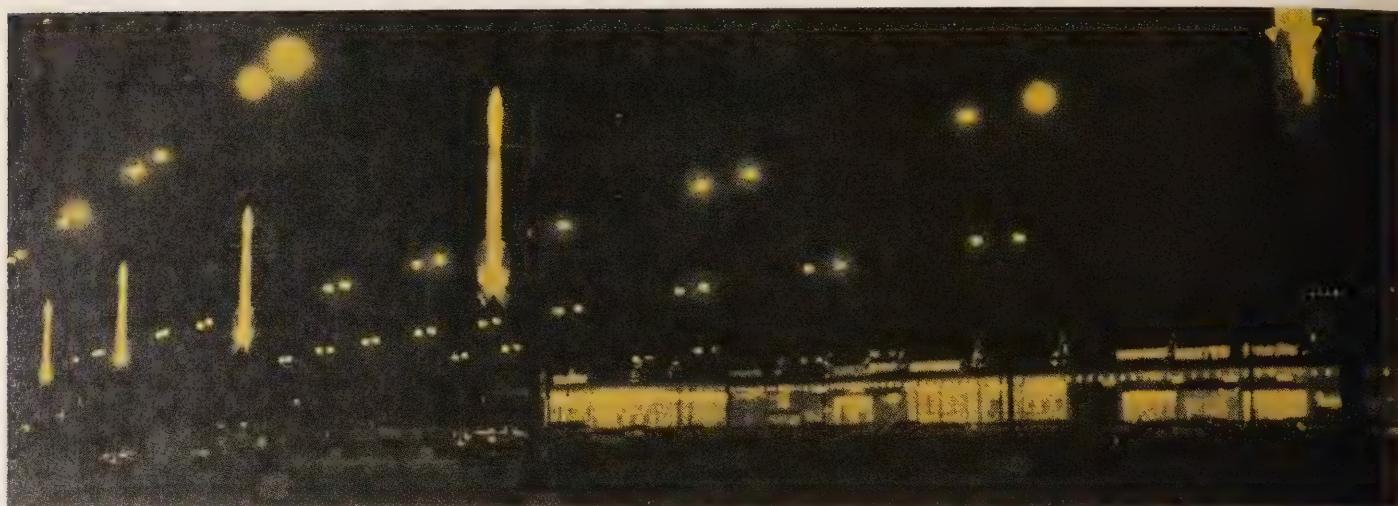
Then follows a slight dip in consumption (electrical that is) as the first of the big birds are ready for the table. Turkeys continue the parade to the oven, and by 3 p.m. power demand is on the rise again.

Having finished their meals, the earliest of the big eaters are relaxing now. Some are switching on TV sets again . . . others are sleeping it off.

Darkness closes in, and the lighting demand increases. Outside, colored lights are coming on again, and from 5 p.m. to 7 p.m. the demand is at its peak for the day (4,100,000 kilowatts). Heating elements in hot water tanks, replacing the supply used in cleaning up after the feast, are now helping to keep the load up, as cooking is all but finished.

Consumption declines slightly, but remains at around 3,900,000 kilowatts for the next three hours. From 10 p.m. it falls off sharply. Weary, overfed celebrants gradually make their way to bed. Only the essential services hum on . . . ■

*This "silent salesman" helps move the products of our plants and craftsmen from the retail shelves to the ultimate consumer.*



## **ELECTRICAL AIDS TO MODERN MERCHANDISING**

The day has long gone when a trusting customer could enter a department store and have the required amount of calico measured off by a venerable clerk who would compute in the old traditional way — one yard being represented by the distance from the extended thumb and forefinger to the point of the chin.

And if there are people who prefer the old style personalized service and mutual trust to the efficient, automated methods of the modern marketplace, they can lay part of the blame to electricity. It has been mainly responsible for the wide variety of equipment developed in recent years to carry out sales-supporting functions and improve service at the retail level.

"Electricity has become the life-blood of modern merchandising", says an executive of a major department store chain with branches in all the principal cities of Canada. "From lighting through to air conditioning and processing it is a vital factor in any efficient retail operation."

"The candle has gone out," he added, indicating one of the store's Christmas trees on which small elec-

tric lights were glowing in realistic simulation of flickering tallow. "And like so many of our former methods, it has been replaced by something more efficient and convenient."

When he mentioned processing, the speaker was chiefly referring to electronic data processing — a system by which a great amount of information can be assembled, processed according to the needs of the retailer and the results printed. Properly programmed, the system can perform many time and money-saving services for the large-scale merchandiser.

It can provide a steady flow of data on such matters as sales by departments, branches and chains including the breakdown of individual items by price lines, sizes and colors. And it can keep close tabs on inventories, expenses, purchases, accounts payable and receivable — without losing track of returned goods.

If there is any one aspect of retailing where the electronic "brain" is particularly valuable, it is probably in the field of perpetual inventory control. In effect, this makes every day inventory day and enables buyers to determine, at the glance of a card,

what merchandise is at the minimum or re-order point. Needless to say, this represents a considerable improvement over the periodic and laborious "stock taking" ritual formerly performed after hours or on weekends.

And retail management intends to do a lot more electronic "brain-picking" in the future. It looks forward to the day when resistors and transistors will be able to determine where stores should be located, what truck routes are the most economical for deliveries, and whether or not a new product should be added.

Along this line, but in a less serious vein, the Robert Simpson Company installs a computer in its large downtown Toronto store at Christmastime to assist customers with the perplexing problem of selecting gifts. If you are pondering a gift for "someone who has everything," take your problem to the computer, say Simpson's, or words to that effect.

The baffled shopper simply checks off a questionnaire indicating the sex and age of the person for whom the gift is intended, the category of the gift and the price range. The



omputer then takes over and in a natter of seconds the shopper receives neatly-printed form on which the recommended gifts are recorded, long with the price and the location f the department in which to find hem.

When a request is received, the computer instantly analyzes the data, elates it to the 3000-odd items from which it can choose, and prints up to 0 selections—all in less than a minute. Customers are advised not to lay tricks with the computer. Try ;, and the machine will advise that ie specifications are inconsistent and politely suggest that the trifler echeck them.

One of the Simpson suburban outlets in Metropolitan Toronto, Scarborough's Cedarbrae Plaza, is a good example of the latest in merchandising methods—combining modern computing practices with the most ivanced lighting techniques. The ore uses a computing device called ie Salestronic to record all informa-on related to sales.

Details of every transaction are unched on a tape which is transcribed at the end of each sales day.



*Electricity and modern merchandising go hand-in-hand as these views suggest. Typical shopping plaza, opposite page, combines utility with the decorative in lighting. Simpson's Cedarbrae store, top photo, incorporates latest electrical aids to retailing including data processing equipment. Brought to life with electricity, animated window display, above, is a sure-fire crowd stopper.*

*Up or down — electricity makes it easier. Centre photo features latest aid to gift selection — the computer. Lower photo illustrates effective lighting combination for display of varied merchandise.*



When store manager H. C. Peacock walks into his office in the morning he finds a record of the preceding day's operations on his desk, complete even to the amount and category of returned goods.

Max Strang, a professional engineer and vice-president in charge of sales for the firm which installed the lighting at Simpson's Cedarbrae, describes the effective use of illumination as "the silent salesman of modern merchandising."

In the realm of "on-the-spot" sales appeal, he says, "the lighting industry has made the most sophisticated advances of any display form. It has become so specialized that it takes great degree of technical skill to create the effects people have come to expect. Good lighting has become such a positive thing that merchants now depend upon it to act as a silent salesman."

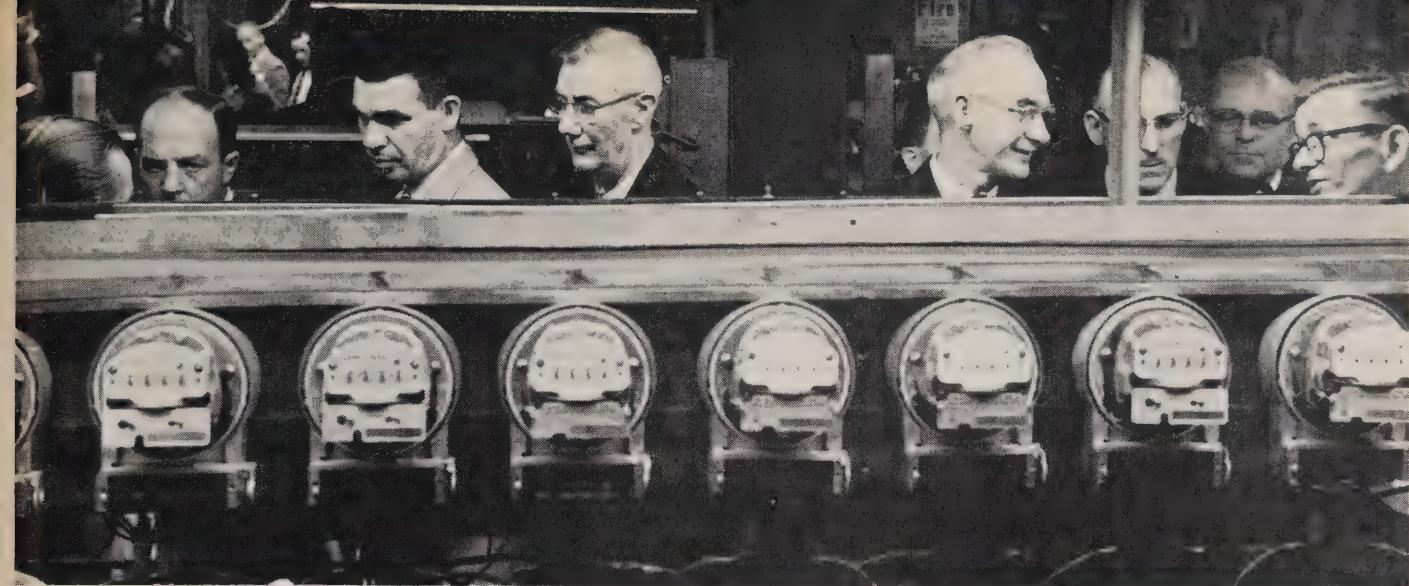
Speaking of the lighting requirements of today's large stores, Mr. Strang said that, in general, the trend was to large area fixtures, usually recessed, to give good over-all illumination without sharp brilliance. Individual incandescent spotlights are being used for warmth and color correction which creates depth and adds sparkle to particular merchandise.

Animation, of course, is another important electrical aid to modern merchandising and it is only necessary to watch the crowds, young and old, gather in front of store windows at Christmas time to gauge its effectiveness. Sound is yet another.

The combination, then, of the visible, including lighting and animation, with the invisible, represented by sound and behind-the-scenes data processing and other office equipment constitutes a substantial electrical contribution to the science of retail selling.

But on your next trip downtown for last-minute shopping, look around to see if there are other ways in which electricity is helping out in the modern marketplace.

Some people still can't get used to those self-opening doors but they have come to accept the escalators as an every-day convenience. And don't forget to pick up a chicken or two from the barbecue pit or some of the wide variety of frozen foods made possible by modern refrigeration equipment.



## *A meeting of* METERMEN

*Subjects ranging from remote reading to bulk metering of apartment house loads were examined at this two-day AMEU workshop.*

With two successful attempts behind them, organizers of the Metermen's Workshop, sponsored by the Association of Municipal Electrical Utilities, are now convinced that these well-attended, no-nonsense sessions are fulfilling a basic technical need among the electrical utilities of the province and that the event will become an important annual feature on the association's calendar.

Several innovations were introduced at this year's workshop, held in mid-November, at Toronto, in order to arrive at the most effective format for future sessions. On each of the two days of the workshop, the 160 metermen present broke up into groups of about half a dozen. Shop problems were discussed one day—field problems the next. A panel of group leaders summarized the dis-

cussion at the end of the sessions.

Tape recordings were made of the proceedings and edited transcripts are to be circulated for further study.

Among the speakers at this year's workshop was J. R. Gardiner, of the Standards Branch, Department of Trade and Commerce, who explained recent changes in the regulations governing meter inspection. He said it was planned in the future to inspect the actual installation of meters as well as the instrument itself. Provision for this is made in the present regulations, he revealed, but it had not been the practice to inspect installations. He thought this would commence next year.

Automatic remote reading of watt-hour meters, an item of considerable interest to utilities across the continent, was again featured on the

agenda—this year with a demonstration.

The audience paid close attention to G. O. Mietz of the General Electric Company who demonstrated the equipment. He explained that it had specific application to large direct customers. In essence, an encoder "reads" the meter and sends the information, via telephone equipment, to a decoder in the utility office.

Among the subjects discussed at the round-table sessions were the bulk metering of apartment buildings, meter cleaning procedures and the repair of converted meters.

Speaking at lunch, G. F. Jannaway, general manager of the York Township Hydro System, helped clarify various sections of the Standard Interpretation of Rates manual. He informed the meeting that the AMEU had recently passed a resolution which would permit local utilities to make mandatory the bulk metering of apartment buildings at their discretion.

A highlight of the workshop was a tour of Ontario Hydro's Central Meter Shop under the guidance of L. V. Hunt, meter engineer.



*Group in top photo is touring Ontario Hydro's Central Meter Shop during two-day technical session. Photo at left shows metermen firing questions at G. O. Mietz who is demonstrating remote meter reading.*

*Town of Deep River was built to house employees of Atomic Energy's Chalk River establishment.*

# LOAD BUILDING IN DEEP RIVER



These articles are based on papers presented at the annual district meetings of the OMEA at Brockville and Muskoka.

How does a utility already in second place in residential consumption of electricity per customer still manage to double the province-wide average annual increase?

To find out, the program committee of the Eastern Ontario Municipal Electric Association invited Bob Spence, manager of Deep River Hydro-Electric Commission to tell the Deep River success story at their recent annual meeting in Brockville.

While part of the success is due to the type of market provided in Deep River, there is no doubt that the sales-minded attitude of management has been equally responsible—this and the whole-hearted support of the elected commissioners.

Deep River, a town of 5,560 on the shores of the Ottawa River north of Pembroke, is home for the scientists and technicians working on Canada's nuclear research projects at Atomic Energy of Canada's Chalk River establishment. As such, income of its working force is probably higher than average. But there is also a community spirit in the town, not always found in similar one-industry centres, which is reflected by the interest of the people in the affairs of their Hydro commission. This is evidenced by their unstinting use of electricity.

In 1960, the average monthly consumption of electricity per residential customer in Deep River was 685 kilowatt-hours. Although only two other communities in Ontario have since reached Deep River's 1960 figure, the utility launched a load-promotion campaign at that time.

Considering the plateau from which the program was launched, the results have been remarkable. Deep River electrical customers used an average of 732 kilowatt-hours a month in 1961. This rose to 758 in 1962 and, projecting current trends, the figure will reach 797 kilowatt-hours this year.

To Bob Spence the most effective approach has been a personal visit to every known prospective customer.

"It offers," he says, "the greatest degree of dignity, an opportunity to discuss his or her overall electrical requirements, especially in the case of new construction, and establishes a confidence in Hydro, by an expression of interest which, to my way of thinking, cannot be achieved by any other means. Our competitors realized this condition years ago and reacted accordingly. We should, at least, meet their challenge on equal ground."

Contacts established with the subdivider and the building and safety inspector provide leads on new build-

ing which are promptly followed up. Suggesting the success of this approach, 80 per cent of all buildings constructed in Deep River since 1961—both residential and commercial—have been electrically heated.

Although Mr. Spence takes prime responsibility for the sales program, the entire staff is encouraged to become sales-minded and develop good customer relations. This is particularly evident in the sale of new water heaters. Since the program began 160 new units have been installed.

In concluding his address to the OMEA delegates, Bob Spence said: "Management must continually explore ways and means of improving efficiency and make recommendations to the elected commissioners as to new policy or changes to existing regulations in order to achieve the load growth objective and to improve our competitive position.

"The final policy objective will, of course, be determined by the elected representative. However, my association with the Ontario Municipal Electric Association and the degree of freedom I enjoy from my own commission in pushing this program and others indicate a bigger and better tomorrow for electrical living."

Deep River's success echoes this promise. ■

*Gateway to Muskoka and  
Georgian Bay resort  
country, the City of Barrie  
has 22,000 residents.*

# ADVERTISING IN BARRIE



Load promotion cost the Barrie Public Utilities Commission \$359 in 1958 — the year natural gas came to the city. In 1960 this work cost \$2,490 and so far in 1963, \$10,588 has been spent for promotion.

Any relationship between the growing competition and the rapidly rising cost of promotion is purely by design — as Commissioner E. R. Alexander of Barrie pointed out to delegates attending the recent annual meeting of the Georgian Bay Municipal Electric Association. In an address encompassing many aspects of the utility's efforts to maintain and increase load in the face of rigorous competition, Mr. Alexander stressed the water heater and dealt at some length with advertising.

In justifying his commission's concern with the water heater load, Mr. Alexander pointed out that, in 1962, net flat rate water heater revenue amounted to over \$44,000 — almost half of total net income, taking into account normal write-off for new equipment. "There can be no doubt," he said, "that water heating is our most important single load."

Linking water heater sales with the utility's advertising program, Mr. Alexander acknowledged the difficulty in assessing the results of any particular promotion, but he said:

"We are certain of one thing and that is: more water heater units are installed during a consistent adver-

tising campaign than with a sporadic campaign or none at all. This commission introduced rental water heater units in February, 1962 and with sporadic promotion, 200 units were installed in the remaining eleven months of that year. To July 30th of this year, with a consistent campaign, 327 units were installed."

Suggesting that customers were motivated to change hot water tanks only when their own became non-serviceable, the speaker went on to say:

"The fact remains that if we do not continually keep our product before the customer by means of consistent advertising, he will take his business elsewhere when his need arises. He must be kept constantly aware that we are in the water heater business and that we are indeed anxious to serve him."

On the vexing question of how much a utility should allot to load promotion, the Barrie commissioner had this to say:

"How much should we spend on promotion of business? This is not an easy question to answer and it is one which the Barrie Commission had to face squarely. Various percentages of gross revenue have been mentioned as the guide to follow. In our case, being quite aware that Ontario Hydro was spending a certain amount for advertising on our behalf, we approved the spending of an amount of a little less than 1.5

per cent of our gross revenue.

"This percentage may be too little or too much for some utilities. Nevertheless, there is one necessity that is common to most of us now, and that is: we must spend enough time, effort and dollars on advertising and promotion to get the desired results."

Among the details of the Barrie PUC advertising program outlined by Mr. Alexander were:

- advertisements in the local daily newspaper three times a week and in each issue of the local weekly tabloid.
- daily newscast at 8:30 a.m. on the local radio station as well as the 7 a.m. news three times a week.
- additional radio "spot" announcements as required.
- twenty-five spot announcements on local television during March and April.
- promotional stuffers with billing.

The appointment of a full-time sales representative and the reduction of water heater rental charges from \$1.75 per month to \$1 per month were other effective measures outlined by the speaker to promote the use of electricity in Barrie.

In conclusion, Mr. Alexander said: "If we are to build our load it will only be done gradually and with a great deal of effort. Advertising is performing an invaluable role in our load-building effort in Barrie and we fully endorse that time-tested phrase 'it pays to advertise'".

New District 4 executive meets.  
From left: A. K. Meen, North York and  
Don Glass, Aurora, directors; W. J. Fisher,  
New Toronto, vice-president; John  
McMechan, Toronto, past president;  
G. W. Leaver, Oakville, president; Elmore  
Archdekin, Brampton, director; J. T.  
Armstrong, Georgetown, vice-president and  
J. W. Ramsay, Toronto, secretary-treasurer.

## METRO DISTRICT UTILITIES DISCUSS COMMON PROBLEMS

Many important Hydro subjects examined at District 4 OMEA annual meeting.

With only one of the nine Ontario Municipal Electric Association annual district meetings scheduled between now and the annual convention of the parent association in March, a heavy agenda of resolutions is assured.

Two of the latest were approved by delegates to the District 4 annual meeting, held at Toronto, in mid-

November. One of these resolutions called for the establishment of a central pool of water heaters from which utilities could purchase their requirements. This was designed to assure that small, as well as large utilities could enjoy the economic advantages of quantity buying. It was also felt that such a procedure would reduce overhead charges for all.

The second resolution urged the establishment of a committee to study the feasibility of the Hydro utilities extending ownership to include service entrance equipment on the customer's premises. It was felt that inadequate wiring in many homes was a major obstacle to load building.

Among the features of the day-long District 4 meeting was a series of humorous but pointed skits dramatizing problems facing Hydro commissioners in the field of labor relations, service and load promotion.

Outgoing District 4 president John McMechan, Toronto Hydro, explained that the annual meeting had been extended to a full day in the light of the growing complexities of Hydro operations and because of the increased need for the interchange of ideas. He urged commissioners to support their managers in the work of the AMEU, which, he said, was considered an authority on the technical side of utility operations.

Some of the problems currently facing the AMEU were outlined to delegates by John Torrance, president of the association. He said that the Engineering Committee had 14 technical groups studying such matters as

underground wiring, rates and safe practices.

Mr. Torrance also announced the launching of a five-year study of electrical loads in the Metropolitan area which will serve as a guide to future system planning. Meters are now being installed on all transformers in two sub-divisions—one principally gas and the other electric—which are comparable in other ways. Load growth, peaks and other factors will be carefully examined.

A first report is to be given at the June technical conference of the AMEU, Mr. Torrance said, but full results would not be known until after the five year test period.

Sales promotion, always among the top priority subjects on the District 4 business agenda, was again reviewed at this year's meeting. A motion to transfer some \$13,165 from the advertising budget to other aspects of load promotion and public relations was unanimously supported. These were funds remaining in the \$50,000 budget previously committed for advertising but considered by the executive to be more useful elsewhere at the present time.

The executive was also supported in its choice of officers made during the year to fill out the unexpired terms of three members who had died or were defeated at the polls. All three appointees were returned to the executive for 1963-64. They were A. K. Meen, North York; J. T. Armstrong, Georgetown; and Donald Glass, Aurora. Gordon Leaver of Oakville was elected president.

To be or not to be: that is the question.  
Whether 'tis nobler in the mind to suffer  
The slings and arrows of outrageous  
customers at election time,  
Or to take arms against a sea of troubles  
That beset my belov'd utility.  
Sea of troubles: ay, there's the rub . . .



—Hamlet as portrayed by  
B. D. Fleming at the  
District 4 OMEA meeting.



# along hydro lines

## Dusk-To-Dawn Lighting Available on Rental Basis

Outdoor lighting for private property and road allowances has been made available on a rental basis by Ontario Hydro to its rural and local system customers.

Known as dusk-to-dawn lighting, the plan enables customers to rent 175-watt mercury vapor lighting units at monthly rates designed to recover fixed costs and operating costs. The units are particularly suitable for lighting farm yards and lawns, private lanes, storage areas, and parking lots.

Equipment rental charges are \$2.80 net a month, plus an energy charge of 95 cents net a month, for a total net rate of \$3.75 a month. This rate includes cost of lamp replacement.

If a pole is rented for use exclusively with a rented lighting unit, an additional charge of 59 cents net per pole per month will also be made.

Ontario Hydro estimates that during the first full year of operation of the dusk-to-dawn rental lighting plan, some 2,000 units will be installed, at a capital investment of approximately \$200,000. Hydro hopes to have the plan in operation by the first of the year. ■

## Do-It-Yourself Cooking Festival

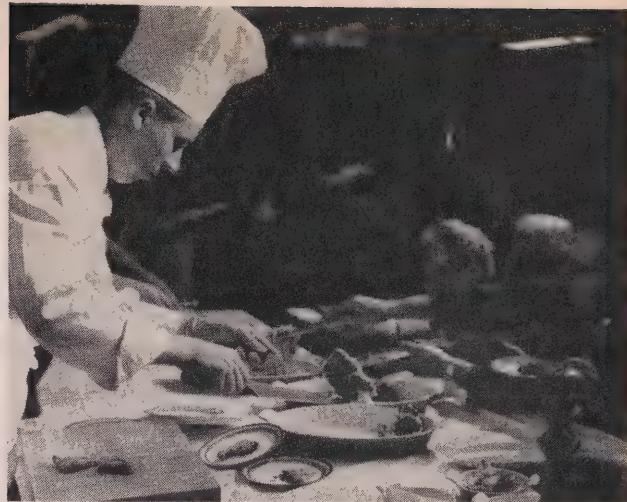
Representatives of the food service industry took a busman's holiday at Thorncliffe shopping plaza recently—and tested their culinary skills on the most modern commercial electric cooking equipment available.

Chefs, cooks, owners of restaurants, motels and hotels, educators and dietitians in the Toronto area broiled steaks, deep-fried potatoes and doughnuts, and reconstituted frozen vegetables in a micro-wave oven. Cooking areas were well stocked with a wide variety of foods, and staff was on hand to assist in its preparation using griddles, broilers, steam cookers, deep fat fryers, micro-wave ovens and ranges.

Also featured on the program of the Commercial Electric Cooking Festival were professional cooking demonstrations staged by a selected group of Toronto chefs. At the end of each hour-long demonstration, the audience enjoyed generous samples of the guest chef's labors.

Providing the commentary during the demonstration periods was Maurice Prior of the Granite Club, who organized and directed the program.

The three-day Commercial Electric Cooking Festival was sponsored by the Toronto and District



*Guests enjoyed generous samples after each demonstration.*

Branch of the Canadian Restaurant Association, in conjunction with Toronto Hydro, Etobicoke Township Hydro, North York Hydro, Scarborough Public Utilities Commission, Ontario Hydro and participating manufacturers.

As well as being accessible to members of the food industry from all areas of Metro Toronto and other centers across Ontario, the enclosed Thorncliffe shopping plaza site provided a steady stream of shoppers and sight-seers past the section of the mall fenced-off for the festival. ■

## Guelph Commissioner Is Air Crash Victim

A memorial service was held December 3 for Arthur James Girdwood, P.Eng., a commissioner of the Guelph Board of Light and Heat, who was one of the 118 victims of the crash of a Trans-Canada Air Lines jet near Montreal. He was a former director of District 6 of the Ontario Municipal Electric Association.

Mr. Girdwood was chief engineer of Wagner-Leland division of Sangamo Limited and he had been active on committees of the Canadian Electrical Manufacturers Association. A North Bay native, he had lived in Guelph for 17 years. He had served on the Guelph Board of Light and Heat Commissioners since 1949, including seven years as chairman.

Mr. Girdwood is survived by his wife, Helen, two sons, Robert and Michael, and two daughters, Patricia and Margaret. ■

## Toronto Hydro Continues Growth

Another year of outstanding progress is outlined in the 52nd Annual Report of the Toronto Hydro-Electric System for 1962. The attractive, 24-page report reveals that the system's peak for the year was 638,815 kilowatts—4.17 per cent greater than in 1961. Total energy sales increased by 4.71 per cent in the same period.

Net cost of energy supplied by Ontario Hydro was \$23,456,334—59.5 per cent of income from the resale of energy.

Underground distribution construction continued

during 1962 in which year nearly \$2,000,000 was expended for this purpose. As in previous years, the underground work was financed from revenue—a policy which, the utility feels, makes it possible to proceed on a long-term co-ordinated plan with a minimum of sharp fluctuations in the work load. ■

#### Total Energy From Gas?

According to Oakah L. Jones, president of Consumers' Gas Company, gas-fired units capable of providing for all energy requirements will be offered to residential customers within three years.

Adding emphasis to his prediction was the nature of the event at which he spoke. This was a demonstration of a pilot total energy installation at Leaside, Ontario, where gas is used to power a reciprocating engine, providing an industrial building with its electricity for lighting and operating heavy motors and arc welding equipment. Normally wasted heat from the engine is re-circulated to warm the building.

At the present time there are only about 10 such total energy plants in operation in North America, about 20 more are under construction and 50 are said to be in the planning stage. Mr. Jones predicted that total energy installations for the home would be competitive in cost with electricity in five years. ■

## MUNICIPAL BRIEFS

**Nepean Township** ratepayers recently voted overwhelmingly in favor of buying the township's electrical distribution system from Ontario Hydro and of issuing \$3,100,000 worth of debentures to cover the purchase. Nepean is just west of Ottawa. The vote on the takeover itself was 2,783 in favor and 176 opposed. Approval of the Ontario Municipal Board is necessary before the new Hydro system becomes a fact.

**North York**, Scarborough and Etobicoke are among those utilities which intend to make the bulk metering of apartment buildings mandatory. Under this single meter procedure the landlord is billed for all electricity consumed.

**North Bay electors**, who voted earlier this month, had an easy time locating the polling stations. A flashing arrow device mounted on a temporary barricade was located outside each of the city's 22 stations.

**Among the first utilities** to cash in on the "Treasure Chest Special", St. Thomas PUC used the ingenious promotion to boost range sales. Together with editorial support and advertising sponsored by dealers, Board of Trade and Electric League of St. Thomas, almost three full pages were devoted to the promotion in a single edition of the daily newspaper.

**Customers renting** an electric water heater unit from Woodstock PUC will be declared owners after six years—in accordance with a recent revision to the utility's rental plan. The new rental-purchase agree-

ment will apply to all units supplied since the inception of the water heater program about three years ago. After three years, customers are notified that they will own the tank in another three years.

**A modern 500-home subdivision** has been announced for a 98-acre site on the western outskirts of Belleville. To be known as West Park Village, the development will feature underground utility services and electric heating.

**Annexation** of more than 550 acres of the townships of Brantford and South Dumfries by the town of Paris becomes effective, January 1.

**The number of rinks** heated by electric infra-red units continues to swell. Brampton arena, where 62 units (representing a total load of 248 kilowatts) were recently installed, seats about 3,000 people.

**Port Arthur commissioners** are protesting plans which call for the wide use of gas in connection with a federal-provincial low rental housing project proposed for the city. Gas water heaters are being specified and the Hydro commissioners feel that a comparison should first be made between the cost of the two types of energy. Galt PUC is also concerned on this score and is drafting a resolution on the subject of energy specifications for subsidized housing projects for consideration at the annual meeting of the OMEA.

**Sarnia Hydro** is among those utilities sponsoring contests for outside Christmas decorations. It is being conducted jointly with the Sarnia Observer and provides merchandising awards of \$25 for winners in each of the city's five wards.

**Entire downtown** business section of Kirkland Lake will take on a festive appearance during Christmas as the result of efforts by local merchants. Decorations will include lighted silver trees mounted on utility poles. The poles will also carry loud speakers over which Christmas music will be played.

**Police Village of Bourget**, in Eastern Ontario, may become a cost contract municipality. Purchase price of the Ontario Hydro distribution system presently servicing the village has been established at \$40,241.

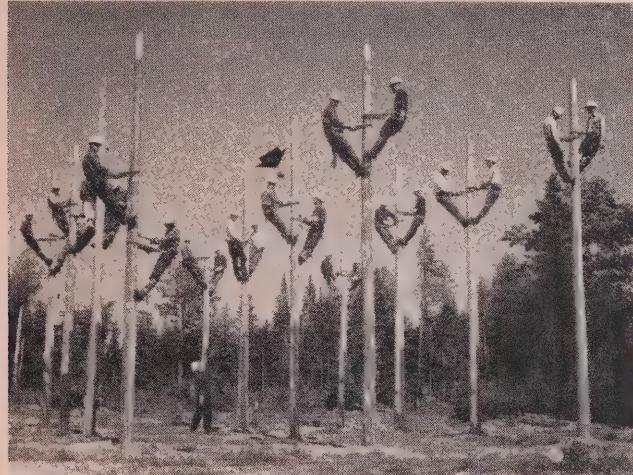
**Three modern substations** have recently been completed for York Township Hydro—including two bungalow types and one of stone and brick construction resembling a modern park building in keeping with its surroundings.

**Personalities in the news** include *Donald B. Best* who has been appointed as special assistant to *W. H. Powell*, general manager, Peterborough Utilities Commission, in accordance with a recommendation by a management consultation firm. He will eventually work into the senior financial officer's position, left vacant since the death of *James Turnbull* last year. *John A. Weese*, chairman of Belleville PUC and a commissioner for nine years, is retiring from the municipal scene. He has been in public life for 46 years.

*Lorne Waddell*, Lindsay Hydro commissioner, was honored at a recent meeting when his picture

was presented for display in the utility office. He has been a member of the commission for 17 years and is exceeded in service by present commissioners *George Baldwin*, 26 years, and *Charles Lamb*, 22 years. A native of Zurich, *Earl Flaxbard*, has been appointed manager and secretary-treasurer of the local Hydro system. He succeeds the late *M. A. Schilbe*. *R. E. Knox*, chairman of Peterborough Utilities Commission, will not seek re-election this year. ■

## Pole-Top Polo?



These linemen trainees of the New Brunswick Electric Power Commission are playing a game of aerial hand ball—but it has nothing to do with recreation. Object of the exercise is to teach them freedom of movement while relying entirely on their safety belts and spurs. The instructor on the ground keeps the ball in play while watching the progress of his class. The exercise was developed at the commission's training school at Marysville. ■

## Power from the Moon

Russian scientists have completed plans for building an eternal power station on the moon which could beam electricity to the earth in the form of a thin ray of light energy, Moscow Radio reported recently.

Huge mirrors would focus the sun's rays on a special device to convert their energy into electricity. The station would have an output hundreds of thousands of times larger than the biggest power station on earth, according to the report. The electric energy could also be transferred to the earth, using equipment aboard a spaceship to convert it into a radio beam. No time was given for launching the project. ■

## Hydro Crews Live On Luxury Liner

A luxury ocean liner has been converted into a floating construction camp for crews working on New Zealand's newest hydro-electric power project.

Use of the retiring liner *Wanganella* for the novel work camp was prompted by the site of the 700,000-kilowatt project in wild, uninhabited fiordland in the far southwest of New Zealand. The mountainous

shoreline offers virtually no flat land for building a camp.

With its own police station, fire brigade, post office, theatre, hospital, gymnasium and bars, the *Wanganella* will be home to 400 men for four years. The men will have to depend on their own resources for entertainment, but their camp will be anchored in an area which draws fishermen and hunters from many countries.

The construction crews living on the liner will be working on a six-mile tunnel, running from the generating station on Lake Manapouri, beneath 4,000-foot-high mountains, to the shore of one of the fiords. A 700-foot vertical shaft has already been drilled into virgin rock on the shore of Lake Manapouri, and an underground gallery will be blasted out to accommodate a large power station at the foot of this shaft.

When completed, the power project will produce electricity more cheaply than any other New Zealand power scheme. ■

## Committee Reports On Nuclear War Role

A special committee of the Canadian Electrical Association appointed to conduct a pilot study of the utilities' role in the event of a nuclear attack has submitted its findings to the association. The report found that the education of utility employees as to the effects of nuclear attacks, and methods of training to cope with such disasters were the most important immediate problems.

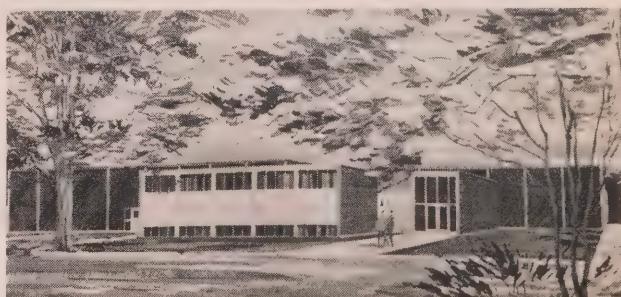
It was agreed that if the proposed recommendations are acceptable to the member utilities, then the Federal Government must be asked to initiate their implementation. Arrangements have been made to have representatives of the Department of Defence Production discuss the pilot study with the Engineering Division Section during the Eastern Zone Meetings, in January, and at the Western Zone meeting in March. ■

## Sarnia Hydro Service Centre

Sarnia Hydro Commission recently signed a \$410,000 contract with a local construction firm to build a service centre on Confederation Street. Architect's sketch suggests its completed appearance.

Charles Spicer, chairman of the commission, announced that the project has now been approved by federal authorities for inclusion in the city's winter works program.

To be constructed of cement blocks supported on



a steel frame, the two-level building will have an attractively designed brick-panelled front. The interior will be entirely electrically heated, while the exterior loading ramps will be heated by electric infra-red units.

The new service centre will house all line and maintenance crews and stores, the meter shop, garage, repair shop and associated offices. Most of these service departments have been housed at the Maxwell Street substation since 1916. Facilities there are no longer adequate in the light of greatly increased load and service requirements.

## Hydro and Hockey



Municipal Hydro systems throughout the province are employing a wide variety of advertising media to keep their product before the public in the face of stiff competition for the energy market. In hockey-conscious Niagara Falls, radio broadcasts of home games of the local "Flyers", defending champions in the OHA Junior A League, are sponsored by Niagara Falls Hydro. Commission Chairman George Burley is shown about to drop the puck at a practice. The Flyers are John Arbour and Ron Schock.

### \$4.5 Million in Contracts Awarded by Ontario Hydro

Three major contracts valued at more than \$4.5 million were announced recently by Ontario Hydro. The awards are part of Hydro's continuing program of capital construction to meet increasing electrical needs of the province, currently doubling each decade.

Contracts went to:

- Frankel Steel Construction Ltd., Toronto, for structural steel at Lakeview Generating Station. Frankel's tender of approximately \$2,000,000 was the lowest of seven received. In addition to main framing of generating units 5 and 6, the job includes the supply of secondary steel for gratings and similar uses.
- Canadian General Electric Co. Ltd., Toronto, for power transformers to be used for the final half of the eight-unit Lakeview thermal-electric project. Lowest of four bids, the CGE contract of approximately \$1,100,000 covers four, 340,000 kilovolt-ampere, outdoor type transformers.
- Dominion Engineering Co. Ltd., for design and installation of two hydro-electric turbines and aux-

iliary equipment for the Kipling Generating Station on the Mattagami River. Dominion Engineering's tender of approximately \$1,600,000 was the lowest of three.

### Opasatika Diversion Second in Northeast

The second major river diversion project associated with Ontario Hydro's current power development program in Northeastern Ontario will commence shortly when construction begins to change the course of the Opasatika River. This project, due to be complete by the spring of 1965, will increase the flow at Little Long Generating Station on the Mattagami River.

The Opasatika River normally parallels the Kapuskasing and Mattagami Rivers, flowing north into the Missinaibi which joins the Mattagami below the Hydro plants under construction on that river. After diversion, the Opasatika will flow 50 miles eastward to join the Kapuskasing River. The Kapuskasing merges with the Mattagami at a point about 10 miles upstream from Little Long Generating Station. An agreement has been reached with the Spruce Falls Power and Paper Company to allow Hydro use of the company's winter haul road and its Neshin Lake railway facilities for transporting construction equipment, material and supplies. Ontario Hydro will provide a crossing on the dam to give Spruce Falls Power and Paper access to cutting areas on the west side of the river.

### Overhead-Underground New Distribution Approach

A compromise between underground and overhead distribution is getting a trial run in a California subdivision where streamlined transformers are being located atop trim, tapered steel poles. The transformer cases are 17 inches in diameter and can house 10, 15 or 25 kva core-coil assemblies. They are painted silver-grey to blend with the sky.

The poles carry overhead primary circuit conductors on two stand-off insulators attached directly to the pole. Secondaries are underground. Rigid conduit connects the pole splice boxes with smaller boxes in front of each home and then to service entrance panels in the residences. The transformers bolt directly to flanged pole-tops.

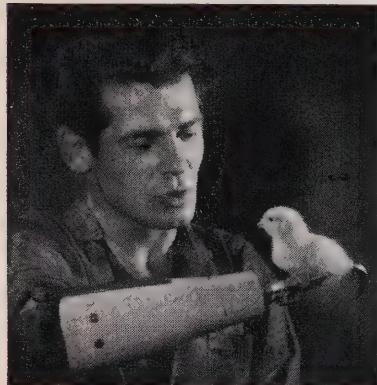
With its inconspicuous primary system and underground services, designers believe the compromise will be acceptable in modern housing developments.

### Direct-Current Transmission

Economic advantages and technical problems which may be associated with extra-high-voltage direct-current transmission will be carefully examined in a two-year study recently launched by the Bonneville Power Administration, in Oregon. Among the features of a \$2,000,000 test centre recently opened in conjunction with the study is a 4.7 mile test line designed for operation at 750,000 volts—the first EHV direct-current line in the United States.

# OFF THE WIRES

Hydro people will be proud of the March of Dimes poster for 1964 which features Ernie Edwards—a fork lift truck operator at the A. W. Manby Service Centre, in Toronto. He is shown holding a delicate baby chick



with one of his two hooks to illustrate how persistence and training can overcome most handicaps.

Ernie lost both arms in an electrical accident at the age of nine and doctors held little hope for his survival. But survive he did and now, at the age of 32, is among the most skilled of the competent fork lift operators at the service centre. Ernie owns his own home, drives his car to work and has four children.

For those who suspect that the British are a cold-blooded lot, unencumbered by human frailties and devoid of emotion, lets have a look at the following report which appeared in the London Daily Mail and is said to have occurred on High Street at Chelmsford, Essex.

A motorist stopped behind a score of cyclists at a red light, but some of them failed to move forward within the statutory split second after it changed to green, so he hooted at the culprit immediately ahead of him—a postman. The latter declined to move, whereupon the motorist butted him from astern. At this the postman, who lost both his balance

and his temper, glanced down at his fallen bicycle, then deliberately kicked in both of the car's headlights.

The motorist got out, surveyed the damage and stomped on the bicycle with some vigor before returning to his car. Postie then strolled to the car and kicked in the spot lamp. Without a word, the motorist once more alit, lifted the two-wheeler above his head and brought it crashing to the ground. The postman then picked up his tire pump which had fallen to the ground and thrust it through the windshield.

This was too much for the motorist, who, acknowledging defeat, took off—but not before the postman got in a vicious jab with his knee which produced a healthy dent in the door panel.

A nasty display of temper, certainly, but with undertones of good breeding. Under similar circumstances, ordinary mortals almost certainly would have resorted to mayhem on each other's persons.

A recent item in a Toronto newspaper points out that more than a million gas lamps are flickering around patios, shopping centres and motels in the United States. The item concludes:

"This 'Back to the Gay Nineties' fad is catching on in Canada too. British Columbia Electric Co. has developed a special tool for slicing a thin gas pipe into lawns to feed a string of lamps."

The phrase "back to the gay nineties" is perhaps the most significant and it behooves all of us in the electrical industry to make sure our product never becomes equated with the past.

Christmas is a time for reflection and for those of us who might think we are still just a step removed from the salt mines insofar as wages, hours and working conditions are concerned, it

might be well to ponder the following rules and regulations governing the employees of an Australian firm of merchants and ship chandlers. The rules were promulgated by the management about 1852 along with the announcement of an important reduction in the hours of work. We are indebted to the employees' magazine of John Labatt Limited for the report.

On the recommendation of the Governors of the Colony, this firm has reduced the hours of work, and the clerical staff will now only have to be present between the hours of 7 a.m. and 6 p.m. on weekdays.

Clothing must be of a sober nature. The clerical staff will not disport themselves in raiments of bright colors, nor will they wear hose, unless in good repair.

Overshoes and top-coats may not be worn in the office, but neck scarves and head-wear may be worn in inclement weather. No member of the clerical staff may leave the room without permission from Mr. Ryder. The calls of nature are permitted . . . No talking is allowed during business hours.

The craving for tobacco, wines or spirits is a human weakness, and as such is forbidden to all members of our clerical staff. The partaking of food is allowed between 11:30 a.m. and noon, but work will not on any account cease.

The top wage for senior clerks, after 15 years of service, was \$3.51 a week.

At this rate, how long would you have to work in order to pay for all the gifts under your Christmas tree?

And on this reflective note, Hydro News takes the opportunity to wish all of its readers the best of health, some wealth and a good measure of happiness during Christmas and throughout the New Year. ■

## JANUARY

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